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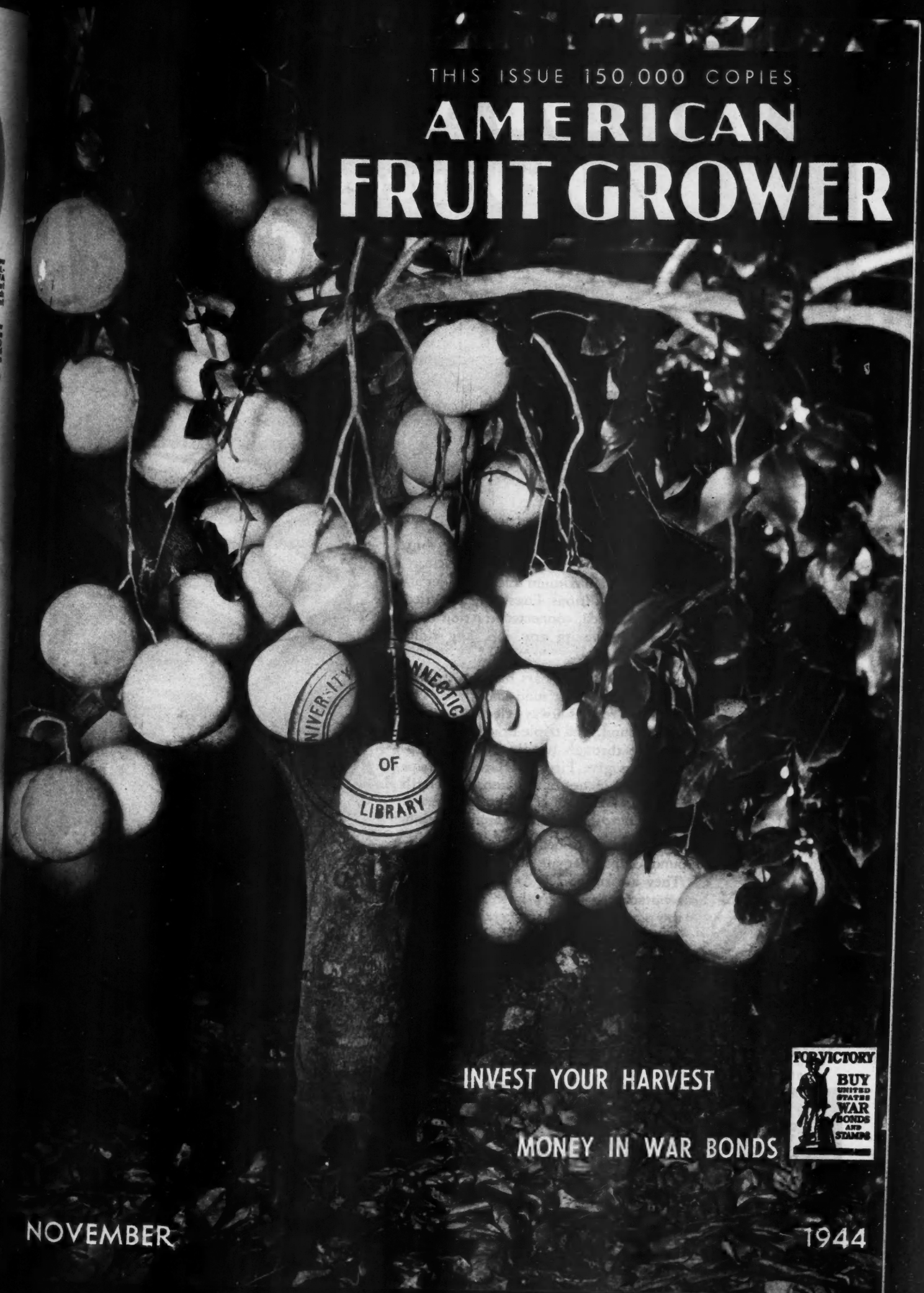
AMERICAN FRUIT GROWER



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NOVEMBER 1944

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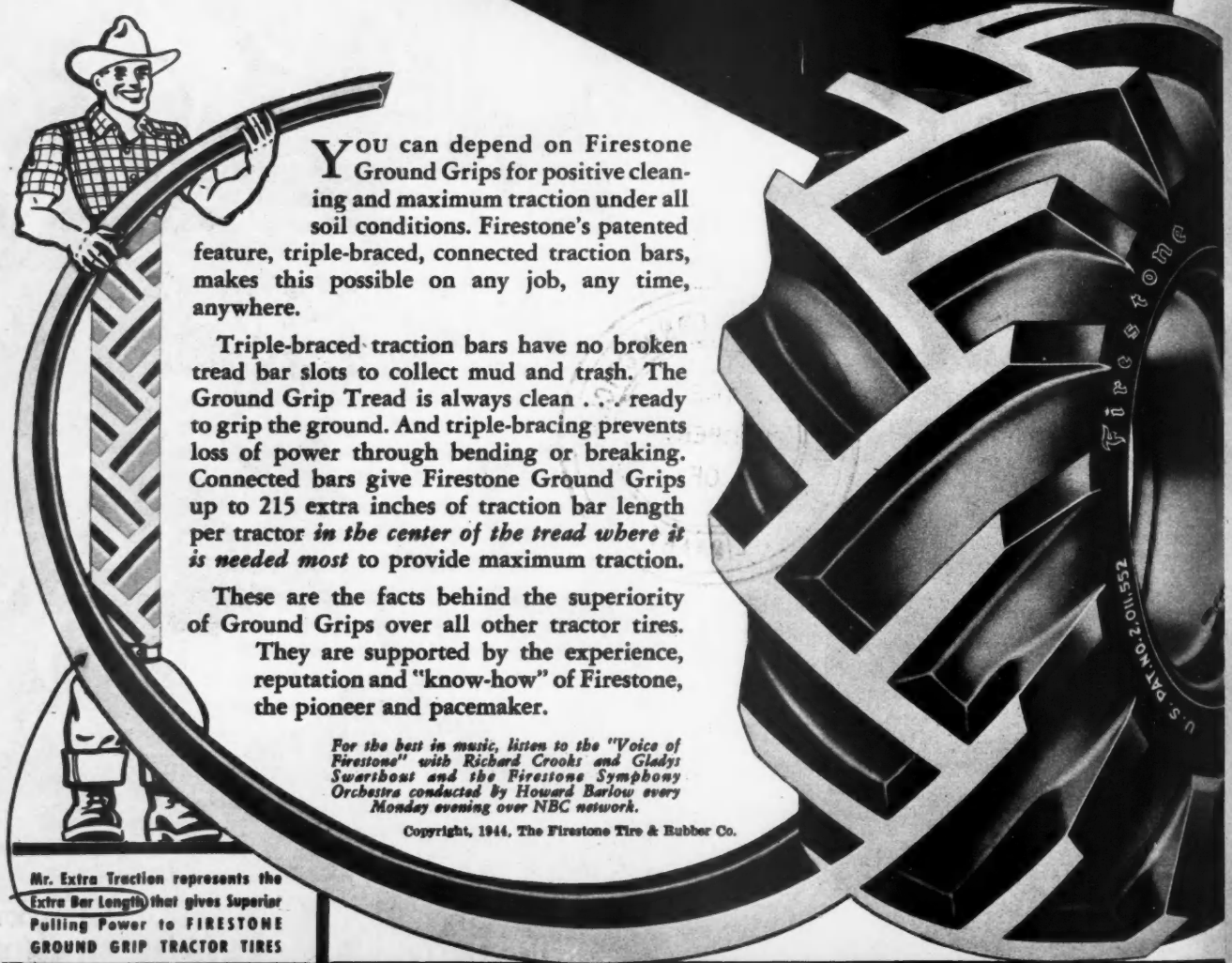

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Firestone GROUND GRIP TIRES

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*But you may not have to wait. We're building all the sprayers possible from the materials allocated to us by the war production board. See your BEAN dealer. And count on your BEAN dealer for top service on your present outfit when needed.

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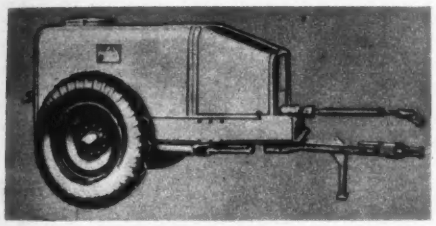

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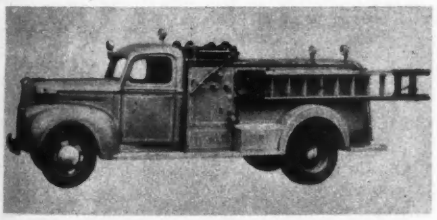

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WITH SEALED-IN CRANKCASE LUBRICATION

EXCITING AS THE RACE IN "BEN HUR"!

THERE was an expectant hush. Then, out of the darkness of this June night in 1908, flashed a scene of breath-taking action.

A "spectacular" sign had been erected on the old Wonderland Building, to give Detroit its first glimpse of the Model "T" Ford.

"Watch the Fords go by!" the message read. And in the light and color of 2000 twinkling electric bulbs, a Ford touring car appeared to race along the Grosse Pointe shoreline. The wheels turned, scuffing up clouds of dust. The scenery shifted constantly. The veils of the women passengers streamed in the breeze. The crowd in the square began to cheer. "It's as exciting as the race in 'Ben Hur'," said an onlooker. The newspapers thought so, too.

"Hour after hour," wrote one reporter, "the auto hurried, defied speed and natural laws alike, every instant seemingly on the verge of tipping into space down in the street below."

From that far-off day to this, people all over America have continued to "watch the Fords go by". They have watched the total mount to 1 million in 1915—to 15 million in 1927—and on up to 30 million.

They have seen these Ford cars and trucks shrink distances and help increase the productivity of the nation. They have seen them wipe out the traditional barriers between city and country, between mountain and plain, and help spread more uniformly the advantages of American culture and opportunity.

One day, there will be new Ford, Mercury and Lincoln cars. Like their predecessors, they will benefit by the energetic skills and resourceful engineering which are a Ford trade-mark. They will be exceptionally comfortable cars, reliable and economical... priced within reach of the greatest number. *But beyond that, their styling will be so advanced that it will be a perfect match for their quality leadership.*

FORD MOTOR COMPANY

Ford

LETTERS TO THE EDITOR

Bordeaux Spraying

Gentlemen:

I have run into a problem on Bordeaux spraying. I use only about 15 pounds per season and buy it ready to use. I had trouble with it clogging up my spray and made investigation as to why. I found it had small lumpy particles that would not dissolve correctly. Also, I noticed instead of it being blue all through, it was largely brown in color. Should it turn lumpy and should it turn brown? Does this indicate it was old? Is it effective as a spray when old? It was last year's supply. Would it deteriorate from one year to another?

Charleroi, Pa. G. Brumbaugh

The material you have is in the process of decomposition. It should be robin's egg blue in color. In the process of decomposition, it becomes lumpy and forms copper oxide. We suggest that you return it to the place from which it was purchased.—Editor.

Grape and Apple Concentrates

Gentlemen:

We would thank you to give us the names of someone who could furnish us with grape and apple juice—concentrated, preferably.

Box 121, Station A
Atlanta, Georgia A. D. Lewis

The Department of Agriculture's Research Administration has announced a new apple concentrate. By writing to Dr. O. E. May of the Eastern Regional Research Laboratory, Philadelphia 18, Mr. Lewis may inquire as to whether this concentrate is available for civilian consumption. Do growers know of any other apple or grape concentrates available?—Ed.

Orchard Management

Gentlemen:

Would you please advise me what is the usual division of receipts between the lessor and the lessee of an orchard? In other words, if the man who operates the orchards pays all the expenses, does the spraying, pays for same, harvests the fruit and sells same, of the gross receipts how much should go to the owner of the orchard?

Detroit, Mich. Edwin S. George

In such a case, the operator usually gets three-fourths of the gross income and the owner of the orchard one-fourth. Even so, this would not be a good deal for the operator unless it is taken on for a four or five year basis. Of course, if the operator knows that the first year will be a good crop year, it would change the situation somewhat.—Ed.

More About Birds

Dear Sir:

On farms in Pennsylvania where cherry trees are plentiful, they discourage the birds by placing bells in the trees. Cords from the bells might be attached to a very lively puppy parked at the base of the tree. Then you would not only have cherry pie, but plenty of music all day long.

Beverly, Mass. Mrs. C. Lantz

The prospect of music all day long might be inviting, but I wonder how long the "puppy" would last on a 24 hour basis.—Ed.

Market Quotations

Dear Sirs:

Please advise whether daily apple market quotations are available.

Beavertown, Pa. J. Frank Hetrick

The War Food Administration puts out a Daily Fruit and Vegetable Report. If you write them at the following address, they might put you on their mailing list: War Food Administration, Office of Distribution, Benton Harbor, Mich.—Ed.

Black Currants

Dear Sir:

I am trying to find a nursery which can supply me with a few bushes of Black Currants. So far I have not been able to locate any. Can you help me with any advice in the matter?

Signal Mt., Tenn. S. Rordam

We doubt very much if you can buy the Black Currant because it is extremely susceptible to the white pine blister rust and along with the wild currants of North America is probably responsible for spreading this disease to our white pines. In many states, Black Currants are being eradicated and there are laws against growing this species.—Ed.

Potash As Fertilizer

Dear Sir:

I have an Elberta peach orchard and have been thinking I would give it an application of potash. If you have any information as to what potash does to a peach orchard, when it should be applied and the amount per tree, I would appreciate receiving it.

Nashville, Ark. J. V. Toland

It is customary to apply potash at the rate of 150 to 200 pounds per acre. This amounts to 1½ to 2 pounds per tree depending on its size and age.

Potash is included in complete fertilizers, analyzing 10-6-4 (nitrogen, phosphate, potash) and is applied at the rate of 500 pounds, or more, per acre. It may be applied in the Spring or the Fall.—Ed.

Two Crop Peaches

Dear Sir:

I believe you will be interested in the behavior of two peach trees ripening two crops in a single season. They belonged to J. E. May, Gray Summit, Mo.

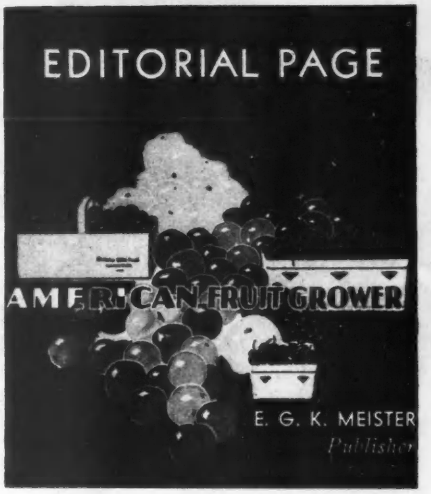
The two trees—both Halberta—ripened a crop that was limited somewhat by frost damage, in a normal way. Two weeks later, a second crop ripened. The later crop was small, but the peaches were sweeter and even better than the first.

Spring frosts were frequent during April when the peach trees in question were in bloom, hence the opinion that perhaps some buds were killed, but the trees quickly developed a few new buds for the late crop. This happens on grapes, as you know, but did you ever hear of it on peaches?

New Haven, Mo. Guy Trail

It is unusual, but it has been known to happen.—Ed.

Cover Picture: Night photograph of Texas grapefruit.



1945 Agricultural Census

THE five-year agricultural census to be taken early next year deserves the most wholehearted cooperation by farmers and fruit growers. In an effort to conserve paper, notices customarily mailed to farmers in advance of the census will be omitted. To make up for this, farm publications are urged to do their utmost to advertise and explain the census, which will require 25,000 enumerators.

Possibly not in the history of American agriculture has an enumeration been quite so valuable to farmers as this one promises to be. The whole picture of wartime agriculture—a period abnormal but highly significant—will be preserved for future study. Its lessons will be invaluable, for the raising of food has been one of the great weapons of this war. And these lessons will be of tremendous importance in making agriculture more efficient in times of peace.

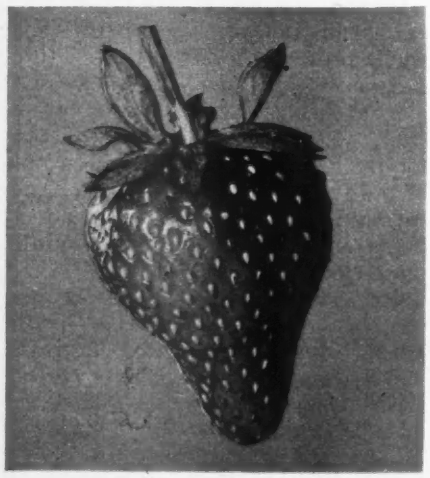
Regarding fruits, the press release has this to say: *Of the small fruits harvested in 1944, strawberries, raspberries, blackberries, and blueberries (both tame and wild) will be listed as to acreage and quarts. The acreage of all land in fruit orchards, vineyards, and planted nut trees will be obtained, as will the numbers of all fruit and nut-bearing trees. Figures on the quarts, bushels, field boxes, or other measuring standards in local use of cherries, apples, peaches, plums and prunes, pears, apricots, oranges, grapefruit, other citrus fruit, grapes, pecans, and tung nuts will be requested in the appropriate regions. The dollar value of any fruits or nuts outside of these categories and the dollar value of all fruits and nuts for sale or trade complete this section of the schedule.*

Fruit growers should be on the lookout for these enumerators and should answer all questions cheerfully and accurately. As with all censuses, figures individuals give are confidential and have no bearing on the fixing of land or income taxes.

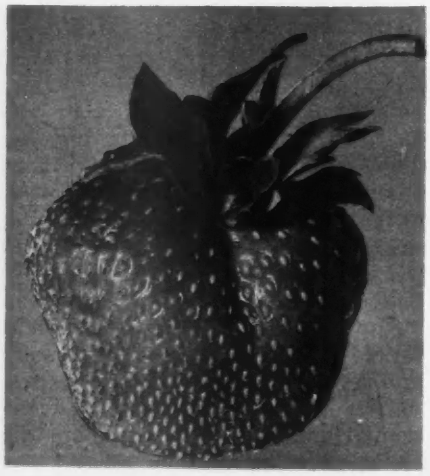
NEW VARIETIES OF SMALL FRUITS

By GEORGE M. DARROW
Bureau of Plant Industry
U. S. Department of Agriculture

Starbright—a handsome, firm, high-flavored, second-early variety for the Eastern Shore of Virginia, Maryland, and Delaware.



Above: Maytime—the earliest commercial variety for Maryland. Below: Redstar—the latest commercial variety, vigorous, firm, high flavored.



DURING the 10 years from 1930 to 1939, inclusive, many new small-fruit varieties, introduced during or just before this decade, have been widely planted. Among these are the Blakemore, Catskill, Dorsett, Fairfax, and Redheart strawberries, which now make up over 40 per cent of the total crop of the United States; the Taylor and Washington red raspberries; the Stanley, June, Scammell, Weymouth, and Dixi blueberries; the Red Lake currant; and the Pixwell gooseberry. During the past 4 years the varieties of berries listed later in this article appeared in either nursery catalogs or research publications. This includes 31 strawberries, 5 highbush blueberries, 15 rabbiteye blueberries, 13 raspberries, 3 blackberries, and 2 currants, 69 in all. If we or our associates know the varieties personally they are starred thus: "*" and our comments follow; otherwise the description is that of the introducer.

During the next 10 years many of these varieties introduced during the past four years will undoubtedly be found well suited to the conditions in many regions. Indeed, some—notably the Klonmore and Massey strawberries—have already become popular in two areas. A continued accumulation of information regarding such new varieties is of importance, for some of these varieties may solve the problems of many growers. We are contributing suggestions from our experience: growers will soon accumulate much additional information. Some suggested new varieties of small fruits for specific regions are:

Southern States

Florida to Texas strawberry growers should try Klonmore, a variety that has already supplanted over half of the Klondike acreage in Louisiana and constitutes at least 7 percent of the total acreage of strawberries in the United States.

South Carolina to Louisiana farmers should begin the testing of rabbiteye blueberries, such as Myers, Clara, Owens and others that are far superior to the unselected wild seedlings now commonly grown.

North Carolina

Because of its large size, high dessert quality, and bright color the Massey strawberry already makes up over half the acreage in the Wallace area.

The Atlantic blueberry, though late, is so much larger than the older varieties, such as Rubel and Jersey, that it should be thoroughly tested.

Kentucky, Missouri

The Tennessee Beauty seems much superior in size, appearance, dessert quality, and freezing quality to the Aroma for a late shipping berry.

The Tennessee Shipper strawberry is exceptionally firm. Its season is just after Blakemore, and it is slightly smaller.

The Sunrise raspberry, though smaller than Latham, is about 2

weeks earlier and much more resistant to leaf spot and anthracnose.

New Jersey to Virginia

Where the red-stele root disease of strawberry has been serious, the variety Temple should be tried. Where it is not a factor, the Midland and Fairpeake strawberries seem well worth testing. The Maytime strawberry is already succeeding where a very early variety is to be grown. The Sparkle strawberry, though of medium size, is succeeding as a late variety. The Redstar strawberry has merit as the latest variety.

The Sunrise raspberry is succeeding as the earliest red variety.

Northern States and Canada

The Burgundy strawberry, though imperfect-flowered, is succeeding in Minnesota. The Midland, Sparkle and Redstar strawberries are worth testing from New England to Iowa. In southern New England, New York, and Michigan the Atlantic, Burlington and Pemberton blueberries should be tested. The Cascade currant is earlier than Red Lake and fully as large.

The Milton raspberry is a large, bright-red, mosaic-escaping variety well worth testing for a late sort. The Rideau raspberry is a hardy, second early sort, not so large as Milton or Taylor, but worth testing.

Pacific Coast Region

The Brightmore strawberry, the Willamette Raspberry, and the Pacific and Cascade blackberry varieties are all promising in the Northwest. The Merton Thornless blackberry should be tested in comparison with the Thornless Oregon Evergreen to see if it is larger, better in quality, or more widely suited.

Small-Fruit Varieties Introduced Since January 1940

New Strawberry Varieties

Borden—From Dominion Experiment Station, Ottawa, Canada. Large, midseason.

Branford — Experiment Station, Mt. Carmel, Conn. Light bright red; for preserving and quick-freezing.

*Brightmore—From United States Department of Agriculture and Oregon Experiment Station, Corvallis, Ore. Blakemore x Oregon 154 (Ettersburg 121 x Marshall). Very good for preserving and freezing, either whole or sliced. Early as, but smaller than Marshall. Suited to Oregon and Washington, but too weak a grower in Maryland.

Brunes Marvel—From Michigan; reported as large, sweet, everbearing.

*Burgundy—From Minnesota Fruit Breeding Farm, Excelsior, Minn. Easy picker x Duluth. Imperfect-flowered, hardy; fruit large, dark, glossy, flesh dark red. Season late. Too subject to leaf spot except in far North.

*Crimson Glow—New Jersey Experment Station, New Brunswick, N.J. Fairfax x New Jersey 51 (Pearl x Aberdeen). Fruit firm, sweet.

*Fairpeake—From United States Department of Agriculture, Beltsville, Md. Chesapeake x Fairfax. Productive, fruit medium to large, bright medium red, dessert quality very high, sweet. Season late as Gandy. Only moderate plant producer.

Gemzata—Gem x Rockhill, everbearing.

*Julymorn—From New Jersey Experiment Station, New Brunswick, N. J. Redheart x New Jersey 5 (Mastodon x Howard 17). Fruit large, irregular, dark red, very firm dark red flesh, very late. Suited to quick-freezing. Often not vigorous, needs fertile soil, very productive.

*Klonmore—From Louisiana Experiment Station, Baton Rouge, La. Klondike x Blakemore. A Gulf Coast variety. Very resistant to leaf spot. Quick-growing plant in spring; fruit bright, smooth, fairly firm, early, replacing Klondike. Too small north of Gulf Coast.

*Konvoy—Louisiana Experiment station, Baton Rouge, La. Fairmore x Klondike. Very productive, size more uniform than Klondike, dark red, too soft for shipment, good for quick-freezing. A Gulf Coast variety.

Louise—From Dominion Experiment Station, Ottawa, Canada. Seedling of Ettersburg 80. Very late. Reported imperfect-flowered.

Mackenzie—From Dominion Experiment Station, Ottawa, Canada. Excelsior x Howard 17, early.

*Majestic—From Virginia. A second early. Too disease-susceptible to become an important variety.

*Massey—From the United States Department of Agriculture and North Carolina Experiment Station, Raleigh, N. C. U.S.D.A. No. 634 (Royal Sovereign x Howard 17) x Blakemore. Large, glossy, bright-red firm, high dessert quality, suited to eastern North Carolina. Though flesh is firm skin is tender.

*Maytime — From the United States Department of Agriculture, Beltsville, Md. Missionary x Fairfax. Earliest, often a week before Howard 17 and Blakemore. Large, firm, glossy, medium red, good dessert quality. Blossoms so early that it may be caught by frost.

*Midland—From United States Department of Agriculture, Beltsville, Md. Howard 17 x Redheart. Very large, glossy, deep red, firm flesh, also deep red, dessert quality very good, season early, about the same as Howard 17. Should be tested from southern New England to Virginia, west to Iowa and Kansas.

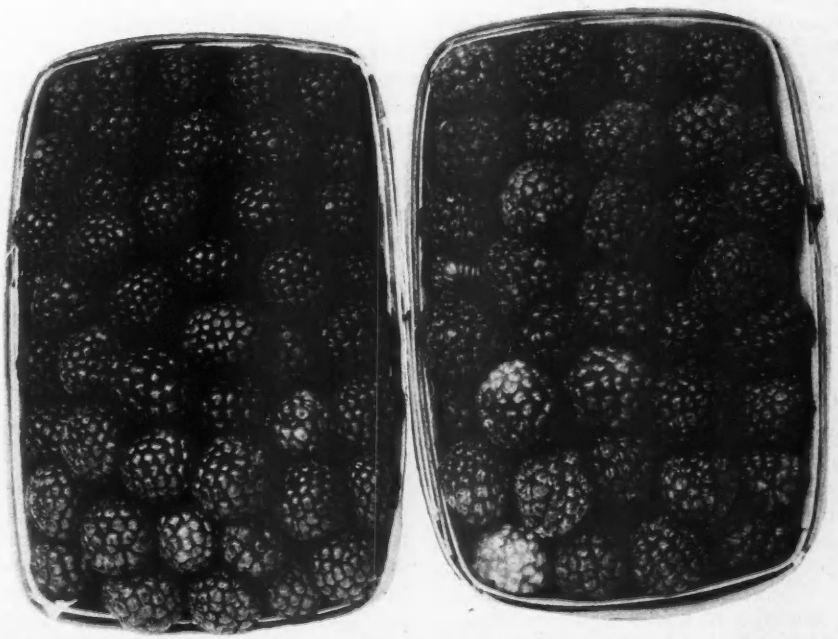
*Northstar—From United States Department of Agriculture, Beltsville, Md. Howard 17 x Redheart. Makes too few runners, large, second early, high dessert quality, not very productive.

Paymaster—From Michigan. Reported as a Howard 17 x Gem cross, with fruit resembling Howard 17.

Queen Anne — From Hingham, Mass. Midseason.

*Redstar—From United States Department of Agriculture, Beltsville, Md. Chesapeake x Fairfax. Showy, bright red, large, very firm, high des-

(Continued on page 22)



To left, Sunrise, earliest red raspberry, medium size, good quality, resistant to leaf spot, anthracnose. It succeed farther south than most other varieties. To right, Latham for comparison.

THE PEACH INDUSTRY "CARRIED THE BALL"

By CARROLL R. MILLER

National Peach Council

A NEW kind of peach deal is just being put on history's shelf, as final account-sales for the 1944 crop reach the growers. It was a novel, an eventful, and a lessonful season; withal not unpleasant.

The 1944 deal was the first ever marketed under ceilings, coast-to-coast. It was the first ever marketed with benefit of national organization. It was next to the biggest peach crop in the last 15 years. USDA's September estimate calls for 72,272,000 bushels, or 6 million larger than 1942's; and only 2½ million bushels less than 1941's record-breaker.

Consistently, however, good packs of sizeable peaches sold at or about the ceiling throughout; except for one or two "soft" spots such as Michigan's, where localized circumstances bore down too heavily.

When the "fresh" portion (45 million bushels??) of this 72½ million bushels is consumed at prices based on $4—3.50, something large has happened; something of high interest to growers. What was it?

America's pocketbook was the fattest ever. Store shelves were short on purchasable things. Sufficient food was an uncertainty. And yet . . . during the season's 30-day peak, at least 25 million bushels of peaches were marketed "fresh" daily—not far from one million bushels per day. When done on a $4—3.50 base, that is remarkable—and interesting to growers. Let's analyze:

Moving a million bushels of peaches into consumption daily for 30 days calls for some real effort by retail—and wholesale — grocers: advance planning of promotions; pushing home canning, with jars, etc., as tie-ins; then, having the peaches in the store when the promotion is on.: planning, exact information, work and timing.

National Peach Council put much effort on helping retailers; by meetings with chain and independent groups: with personal work with "key" grocers; informational bulletins as to progress of the crop toward the different markets; and some thousands of posters to retailers. This, coupled with highly effective work done within their own territory by Michigan, Colorado, New Jersey, the Appalachian states, and others, aided hugely in stimulating the grocers to "go to town" with rightly-timed home-canning promotions on peaches. The second largest U.S. chain reported tonnage of peaches sold by divisions, with comment: "We sold more during those two weeks than we sold in a corresponding month of 1942, which was our peak in peach sales to date."

Maintenance of ceiling levels was remarkable, or more; considering the record-breaking shipments. Peak rollings came the last week of July and first week of August—7,687 cars, to average *641 cars per day* for the 12 working days of the fortnight. Compare with 1942's smaller peak of 7,150 cars the same two weeks, when prices sagged to $1.35 f.o.b. at some points, against this season's $4, etc.

The retailers knew when the peaches were coming; where they were coming from; the varieties and their best uses. Retailers, like the public, we say loosely, are woefully uninformed as to peaches. But . . . there are nine long months between peaches, year to year. They forget, between September and the next June, of course. Educating retailers—and the public—as to peaches is a perpetual job, hence. That job—educating the million employees in the nation's 400,000 grocery stores about peaches—again stands out emphatically as a prime need, year to year, every year.

In 1944 for the first time, peaches, fourth largest U.S. fruit industry, worked under a national plan, with national organization. In January, National Peach Council in letters to key peach growers nationally said: "Last season (1943) OPA called regional meetings of growers: got varied, clashing requests from different groups as to peach ceilings . . . This season, the growers must 'carry the ball';—should meet and agree nationally on a united ceilings program; then follow through with the full weight of the Peach Industry."

This was done. At St. Louis, Feb. 23-24, National Peach Council, with 18 states attending, agreed upon $4 as the proper ceiling level, f.o.b. That was held to and worked from consistently with OPA by the Peach Industry Committee and by special groups of Council officials and others. Several other vital things beside price were made a part of the Industry's recommendations;—as little weighing-stamping as possible, etc.

Results were favorable, on the whole. Peaches were granted ceilings approximately on the levels requested: $4 f.o.b. for the frost-hit Southern States (8.3c lb.); around 7½c lb. for the rest of U.S. The Peach Industry did "carry the ball" according to plan; successfully. It was indicated that OPA was thinking in terms of $3, instead of $4, when the Industry began presentation of its case. Just how much the St. Louis Conference, with its preliminary meetings, its nation-wide agreement, and subsequent follow-ups, was worth to The Industry, can only be guessed at. But with the national crop 72¼ million bushels an increase of—make it what you will, 25c, 60c—per bushel, the increase meant some millions of dollars to U.S. peach growers.

There were many other jobs; some successful, some abortive; ceiling increases for frost-hit and drouth-hit states; peach recipes, and news stories

(Continued on page 24)

RODENT CONTROL IN ORCHARD AND STORAGE

PART V—THE WOODCHUCK

WORTH CLIPPING

ANOTHER rodent, with which the fruit grower has to contend in the orchard, is the woodchuck or ground hog (Marmota spp.). This mammal is also known as the marmot, whistle pig, or "Siffleur" depending on where it is found. Woodchucks have a wide geographic distribution in the United States. They are found in the East as far south as a line beginning at Norfolk, Virginia, and extending southwestwardly, east of the mountains of North Carolina, to northwest South Carolina and northern Georgia and Alabama, and thence northwest to the Mississippi River in Tennessee.

The woodchuck, which is really a large terrestrial squirrel and one of our largest native rodents, weighs about six pounds and averages 32 inches in length. It has a broad short head set with long sharp white incisor teeth (well adopted for cutting vegetable substances), a blunt nose, low rounded ears, and medium sized eyes. The body, moreover, is heavy and robust and the tail is well-haired but short and flat. The woodchuck has powerful legs with strong claws adapted for digging. It is also an excellent swimmer and frequently climbs trees. The pelage (fur) is fairly long, a yellowish brown with buff tips and coarse above (dorsal side). The under parts (ventral side) are usually less grizzled in appearance. The color of the fur varies considerably depending upon the age of the mammal and the locality where found.

Woodchucks are normally slow in their movements. Therefore, for safety, they usually do not travel more than 300 feet from their dens. These consist of burrows under stone walls, boulders, wood piles, trees, uprooted stumps, old buildings, ditch banks, fence rows, or in open cultivated fields, meadows, and wooded areas, or, wherever there is a good supply of food on which to forage.

Where dens are located in fairly open areas, such as orchards, alfalfa fields, or grassy meadows, they usually have two or more burrow openings to the surface; one consisting of a well-hidden so-called "back door" which drops vertically two or more feet into the earth. Woodchuck burrows can be distinguished from those of other animals by the invariably fresh mounds of soil at the entrance. These burrows may sink to a depth of five feet and extend thirty feet or more, terminating in a blind sac where a bulky grass nest is situated.

As woodchucks are more or less solitary, generally only one or two adults occupy a denning site. Therefore, dens are usually widely scattered rather than concentrated in a given locality. Furthermore, one woodchuck may use several widely separated dens.

Woodchucks are hearty feeders and live almost entirely on green succulent plants and seeds; they seldom eat flesh. Moreover, woodchucks are especially fond of legumes, such as clover, alfalfa, and soy beans, as well as apples and various truck crops. It is primarily through their foraging on these crops that complaints against them arise, calling for control measures.

After a long summer of foraging, the woodchuck becomes fat and sluggish. When winter sets in and food is scarce he hibernates, passing a long period in a dormant condition. The time for hibernation varies with the locality and length and severity of the winter. In the northern part of its range, the period is from October to the latter part of March.

During the first warm days of spring, woodchucks come out of their retreats and wander from one hole to another looking for a mate. Soon after breeding, however, they seek individual homes so that there is not more than one pregnant female living in a den. Moreover, it is during this active season that the females prevent the intrusion of animals other than predators, which they may not be able to stop.

The Woodchuck—one of our largest native rodents, has wide geographic distribution.

During the latter part of April or in May, after a gestation period of about 28 days, the mother gives birth to from three to five blind and naked young, each weighing about one ounce. These spend from four to six weeks within the home den and then leave the parent to establish their own homes.

Damage caused by woodchucks is diverse but in orchards it includes injury to trees, fruit, and cover crops. Woodchucks oftentimes establish

(Continued on page 10)

AS A PART of the fruit grower's battle to conserve food during this total war, it is highly important for him to reduce losses to orchards and stored fruit crops by curtailing damage done by several species of rodents. The accompanying article on "The Woodchuck" is the last of a series of five noteworthy articles on "Rodent Control in Orchards and Storage." This article has been prepared especially for AMERICAN FRUIT GROWER by Robert M. Borg, Assistant District Agent, Division of Predatory and Rodent Control, Fish and Wildlife Service, United States Department of the Interior. If after reading the accompanying article you desire further information, it is suggested that you write your County Agricultural Agent or the District Agent, Fish and Wildlife Service.—Editors.

RODENT CONTROL

(Continued from page 9)

Clawing and biting by the Woodchuck has broken up the bark of this mature apple tree.

their dens under fruit trees. Through their digging the roots are aerated, thus seriously affecting the health and vigor of the tree, or, in extreme cases, actually killing it.

In early spring, when woodchucks come out of hibernation, they are torpid, their claws are long, and their incisor teeth have grown considerably. They clean out their burrows (a practice in which they persist throughout the summer) and sharpen their claws and wear down their teeth on nearby trees and shrubs. This clawing and gnawing, both on the trunks and branches of fruit trees, causes serious wounds which may kill the trees, especially where it is repeated for several successive years. Actually, the general health of the trees is impaired and fungi may become established.

Woodchucks, due to their fondness for apples and other fruits, often climb trees to eat them. In doing this they not only destroy considerable fruit but through their climbing and eating actually knock off great quantities.

In many orchards cover crops are grown for harvesting or to increase the productivity of the soil. Wherever a leguminous crop is introduced, woodchucks find it and soon establish their dens nearby. Through their constant foraging the crop yield is greatly reduced and its value depleted. From observations it has been found that one family of woodchucks consumed about one-fourth of an acre of alfalfa in the course of one summer. Furthermore, in orchards the mounds of earth at the entrance to dens are obstacles to cutting bars, and the holes, especially "back doors," are a menace to the legs of horses used in cultivating or harvesting the cover crop.

During recent years woodchucks have increased in numbers until today they are the most abundant animal of their size throughout their range in the East. This increase came about, because man has replaced the forests with orchards, fields of alfalfa, clover, truck crops, and hay fields. Also, with the clearing of the forests came the disappearance of the wolf, cougar, and other predators which helped keep the woodchuck population in check. Woodchucks, therefore, have largely forsaken the heavily wooded areas and now live on that borderline which supports trees on the one hand, and pastures and meadows on the other.

The effect of climatic conditions, such as droughts and mild winters, various predators including man, and diseases must play some part in the animal's existence but to date no definite natural factor has been found to decimate the woodchuck population.

Thus, because of such drastic changes, the 'chuck has become a pest of considerable economic importance, and man has often found it necessary to control the woodchuck where it may be doing damage.

The work of the woodchuck may be recognized not only by its habits of keeping the burrows of the den cleaned out but also by the size of the mound of fresh earth at the entrance to the burrow, evidence of damage to the crops nearby, and trails visible between two or more dens or those trails leading out to the feeding areas.

The most efficient way to control woodchucks, where they are doing damage, is to destroy them by placing a poison gas in their dens. Calcium cyanide, carbon disulphide, chlorpicrin, the exhaust from a gasoline engine, or woodchuck cartridges are all effective fumigants which will kill woodchucks when they breathe the lethal gas liberated.

Active dens should be fumigated during the spring months and only in those areas where woodchucks are likely to carry on depredations. It is during this season that 'chucks are most active and always keep their burrows cleaned out. Further, if woodchucks are destroyed at this time, other animals, like the rabbit and skunk, are less likely to be using the den and the result will be their conservation. By fumigating active dens in the spring, the mother and young are destroyed and less damage will be sustained by growing crops. However, control throughout the summer may be necessary because woodchucks may migrate into a farming area that has been previously treated for control.

For best results calcium cyanide dust should be used with a foot pump duster or a hand duster. A half dozen strokes of the plunger of the gun or duster will force sufficient dust into an entrance to an active woodchuck den; then the entrance should be closed tightly with inverted sod or other obstruction and the mound of earth levelled off. Burrows at each den should be dusted from the windward side to avoid breathing the gas. Moreover, if, after a few strokes of the gun in one burrow, the dust emerges from other connecting holes, they should be closed immediately to assure a greater concentration of gas.

Calcium cyanide may also be used by placing at least one ounce (one rounded tablespoonful) as far down each used burrow as possible, then the holes should be closed as indicated above, but care taken to keep loose sand or dirt from covering the poison dust. A one-ounce dose is a small one but this tends to produce lethal gas "pockete" in the burrow. A long handled spoon or a small can tied to the end of a stick may be used for this purpose. When these calcium cyanide dust particles come in contact with the atmosphere, a poison gas, slightly lighter than air, (0.70; air is 1.), is given off which diffuses throughout the entire burrow system.

Caution—Calcium cyanide is a virulent poison and the hydrocyanic acid gas given off acts rapidly when breathed in a lethal (deadly) concentration. This gas lacks definite warning qualities in lethal concentrations. Therefore, avoid breathing the gas given off and do not get any of the chemical in the mouth. After using it, wash the hands thoroughly. Moreover, do not open the cans or containers or remove the contents except in the open air. Be careful to store containers in a safe place. In case of poisoning by cyanides, remove the person from the gas and call a physician. If patient is breathing, have him inhale from a bottle of ammonium carbonate. If recovery is relayed but the victim is conscious, give him 16 drops of aromatic spirits of ammonia in one-half a glassful of water. When no breathing is noticed, start artificial respiration at once.

Carbon disulphide is used by pouring about two ounces or three tablespoonfuls of the liquid on a small wad of cotton, rags, or other absorbent material and placing it as far as pos-

(Continued on page 26)

RECENT DEVELOPMENTS IN FRUIT JUICES

By W. V. CRUESS
University of California

THE production of canned fruit juices has increased very rapidly in the last ten years. In 1935 the juice pack for the whole United States including Hawaii, was about 9,317,000 cases; in 1943 it was about 39,202,000 cases. This does not include bottled juices and frozen pack juices, probably around 6,000,000 cases; making the pack of all kinds of juices about 45,000,000 cases. The demand for citrus juices and concentrates under Lend-Lease and for Army use "boosted" the pack materially; nevertheless, consumption by American civilians has grown at an amazing rate. In 1943 the packs of the various juices were about as follows: grapefruit 20,029,700; pineapple 8,600,000; orange 2,702,000; other citrus juices and concentrates 2,789,000; grape 1,500,000; apple 1,000,000; nectars and miscellaneous juices 1,000,000 and prune 450,000 cases. (From Western Canner and Packer, Statistical Number 1944 (April)).

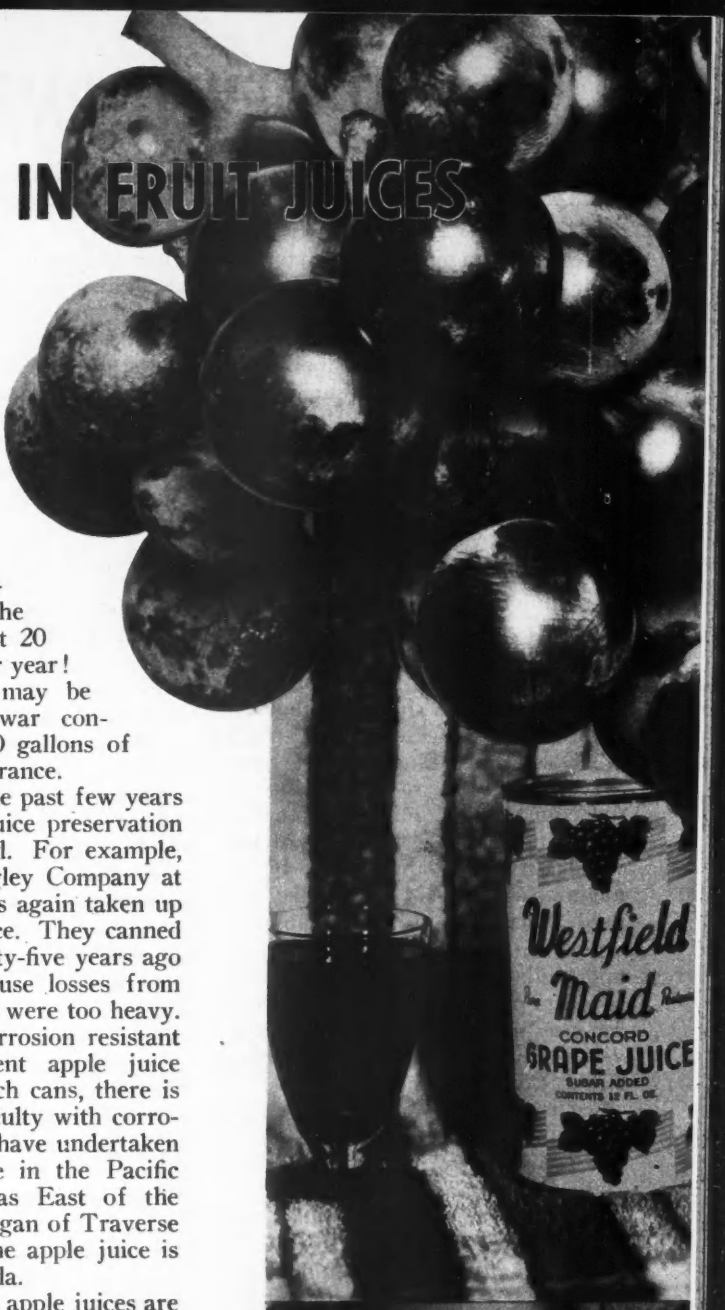
These figures do not include various juices served fresh in fountains, etc., such as orange, lemon and apple, nor barreled apple juice. In addition, many of us prepare our own citrus juices for use on the breakfast table.

To say that Americans are fruit juice conscious is to put it mildly. My guess is that we consume in the neighborhood of 400,000,000 gallons of fruit and tomato juice each year or about 3 gallons per capita. Some of us drink more, some less and many none at all. In the author's family, for example, the consumption is about 20 gallons per capita per year! For comparison it may be mentioned the pre-war consumption of over 30 gallons of wine per year in France.

Apple Juice: In the past few years the trend in apple juice preservation is toward the canned. For example, in the West the Bagley Company at Ashland, Oregon, has again taken up canning of apple juice. They canned this juice some twenty-five years ago but gave it up because losses from corrosion of the cans were too heavy. With the modern corrosion resistant cans and the present apple juice enamel lining for such cans, there is no longer much difficulty with corrosion. Several others have undertaken the canning of juice in the Pacific Northwest as well as East of the Rockies, such as Morgan of Traverse City, Michigan. Some apple juice is also canned in Canada.

Most of the canned apple juices are of slightly cloudy appearance, rich apple juice flavor and of medium tartness, very pleasing and refreshing. Of these, that of the Morgan Company of Traverse City, Michigan, is we believe one of the best known.

(Continued on page 12)



RECENT DEVELOPMENTS IN FRUIT JUICES

(Continued from page 11)

Recently, an entirely new type of apple juice has appeared on the market. It is white in color, shows no browning from oxidation. It is cloudy, almost pulpy in appearance, about like canned pineapple juice in that regard. It has a rich fresh apple flavor; it being perfectly feasible to determine by its flavor the variety of apple used (if you know your apples reasonably well). Full details of the process are not yet available for general release, but it involves extraction of the juice in a continuous Schwartz juice extractor, deaeration to remove air, flash pasteurizing, and canning under controlled conditions. The equipment is similar to that used in preparing pineapple juice. James K. Dole and Associates, 58 Sutter Street, San Francisco, have pioneered the equipment and its use. In California, the S. & W. Company of Redwood City pack apple juice by this method. At present bottles are being used, since cans are unavailable.

In Switzerland, Germany, England and Holland, apple juice is preserved by germ proof filtration without heating the juice. The process was developed by Dr. Boohe and the Seitz Filter Works of the Continent. The juice is brilliantly clear and slightly sparkling. Its use in America has not yet proven very successful commercially.

Fruit Juice and Vegetable Juice Blends: Blends of vegetable juices in which tomato is the predominant juice are on the market. Various fruit juice blends such as apple-and-orange, cherry-and-apple, prune-plus-grapefruit, and others have been produced experimentally. Canned orange-grapefruit juice is a well known commercial product. Recently the New York Agricultural Experiment Station introduced apple-raspberry juice on the New York market. But insofar as this writer knows, he was the first to suggest blends of fruit and vegetable juices. Fruit furnishes acid which makes it easy to sterilize the blend. Pure vegetable juices (except tomato) lack acid and are, therefore, hard to sterilize; require 240° F. under steam pressure which destroys Vitamin B and most of the flavor.

We have tried many such blends but find that orange-and-carrot is the most pleasing and nutritious of those tested. Details of preparation will be furnished on request; it is not feasible to present them in this short article.

The orange-carrot blend, however, was better in flavor and appearance than the others. It is rich in Vitamin A (carotene), in C (of the orange juice), and contains fair amounts of B_1 and G. It is refreshing and a good thirst quencher; should also be an excellent breakfast beverage. It supplements milk for children as it supplies abundant amounts of Vitamins A and C as well as beneficial mineral elements. It retains its flavor well in storage after canning.

Improved Prune Juice: In the Fruit Products Journal of New York, Vol. 20, Nos. 7 and 8, March and April (1941), Leonard, Lane and Ponting, along with this writer, described an improved method of preparing prune juice from dried prunes. In the usual procedure the fruit is boiled; in our procedure it is extracted successively with water at about 175-180° F. Hence most of the fruit flavor and aroma are retained. The juice is then canned or bottled. Enamel lined cans, not tin, should be used.

By the same procedure a concentrate or extract of high concentration and of rich flavor can be made. It may be diluted as desired to drinking strength and should be useful in preparing a "dairy base" prune drink similar in purpose to the well known and widely sold orange dairy base drinks.

Citrus Juices: The grapefruit juice pack of Texas and Florida has "jumped ahead" at a startling pace; the total citrus pack exceeded 25,000,000 cases for the entire U.S.A. Grapefruit juice is packed also in California and Arizona, but does not rival Texas and Florida in volume. California, however, is a heavy packer of orange juice.

Pineapple Juice: The "pine" juice pack now rivals in size that of the sliced fruit and approximates 8-10,000,000 cases a year. Most of it goes to the Federal Government for War and Lend-Lease.

Grape Juice: For many years grape juice has been marketed in glass bottles. Pederson of the New York Agricultural Experiment Station has shown that to minimize loss of flavor and color by oxidation all air must be eliminated from the bottle, easily done by filling hot.

Recently grape juice has been placed on the market in especially enamel lined cans. We have sampled several brands and find the product pleasing in color and flavor.

Dried Juices: Perhaps with the increasing scarcity of cans and bottles, spray dried juices will attain greater prominence. For example, the Mutual Citrus Products Company of Anaheim is finding a good demand for its spray dried lemon juice.

Recently we sampled a dried tomato juice in flake form produced by the Sardik Company. It was of good color and flavor.

Freezing Concentration: Recently interest in the concentration of fruit juices by freezing out the water has been revived. Flavor retention with some juices is excellent. Orange juice does not respond well to this method as oxidative changes are quite severe unless special precautions are taken.

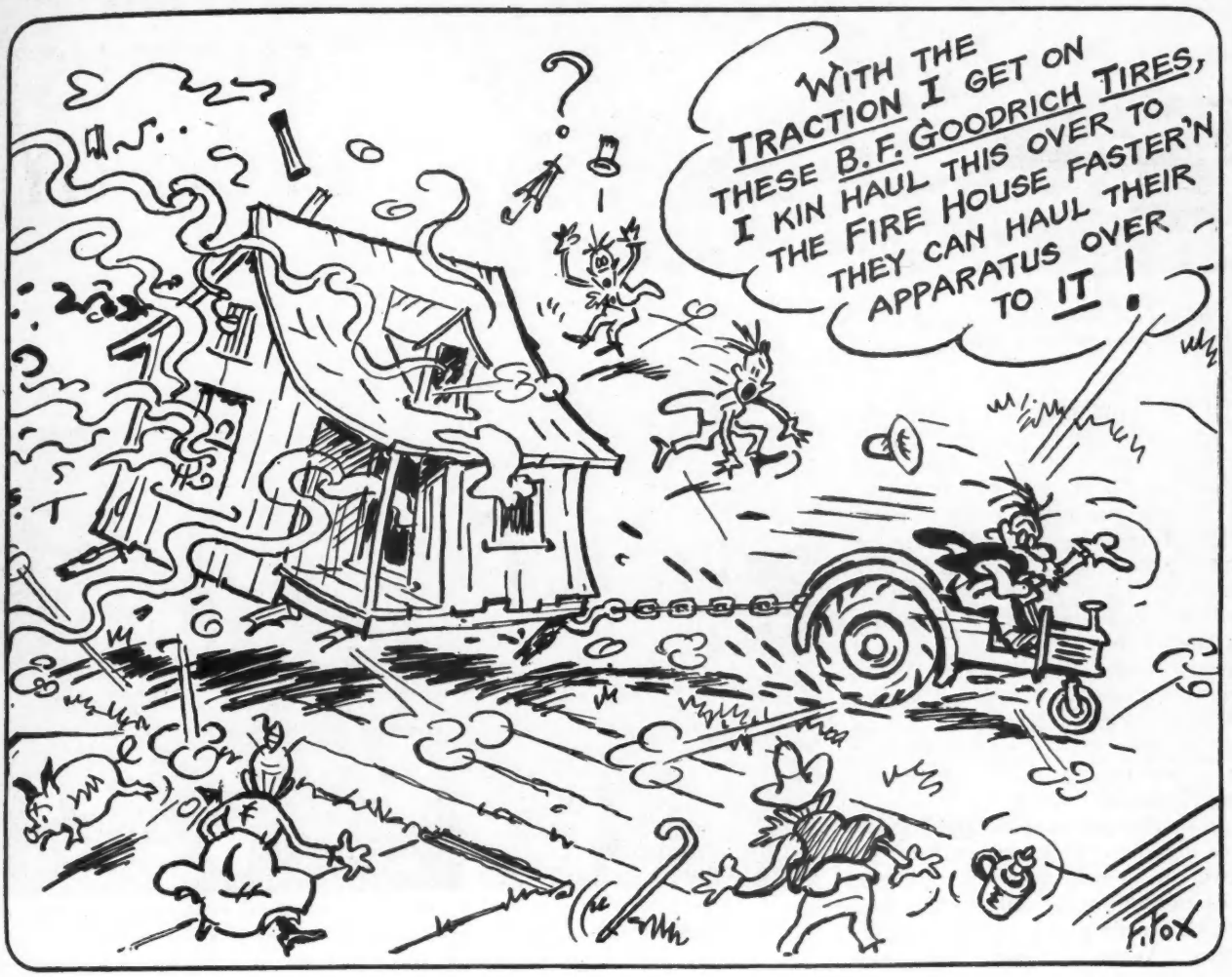
The concentrates so produced should be useful in preparing bottled fruit soda waters and also for distribution as syrups for household use in making beverages. For this purpose, they should be preserved in freezing storage and distributed "along with" frozen peas, frozen strawberries, etc.

Frozen Pack Juices: One large company, the California Consumers Corporation of Los Angeles, has developed a good demand for frozen fresh orange juice in cans. Several apple growers of Sebastopol, California, have sold considerable frozen pack apple juice in roadside stands. Or rather, they store the juice in frozen form in jugs, thaw it later out-of-season, and sell the thawed juice. Many others store bottled frozen apple juice in their lockers at the local frozen food locker plant in Sebastopol for their own use. Other juices, particularly berry and apple, are also stored in frozen food lockers for home use.

Concentrates: Lend-Lease has taken millions of gallons of concentrated California and Florida orange juice. The juice is reamed from the fruit, deaerated, flash pasteurized, concentrated in vacuo to high density and packed in cans or barrels. Much is used in Great Britain to provide Vitamin C and other essential food elements to children.

Publications: Those who wish to pack fruit juices should obtain Government and State college bulletins on the subject. Circular No. 344 of the University of California, College of Agriculture, Berkeley 4, California, by Joslyn and Marsh, is obtainable free on written application to the Publications Secretary of the College.

SPEAKING OF TRACTION —by Fontaine Fox


WITH THE TRACTION I GET ON THESE B.F. GOODRICH TIRES, I KIN HAUL THIS OVER TO THE FIRE HOUSE FASTER'N THEY CAN HAUL THEIR APPARATUS OVER TO IT!
F. FOX

WHEN you get full traction you're saving fuel and saving money. You do more work in less time.

With your tractor rolling on B. F. Goodrich tires you get *extra* traction — added bite, grip, and pull to handle the hardest jobs. Take a look at those high, heavy shoulders that say "no slippage." And note how the cleats run in *pairs,* instead of singly. Here's double bite — a steady pull for tough going.

The best way to get the full answer on traction is to watch these tires at work. As the tractor moves over the soil note these three points and see for yourself why B. F. Goodrich tires give you the most traction:

Watch the Bite: the extra-high cleats and the open-center design of the Silvertown give a deep bite. You get good traction in mud or clay — even on cover crops.

Watch the Grip: the paired cleats of the Silvertown give double grip. Heavy shoulders provide maximum pull. Slippage is reduced. Tire clings to hillsides.

Watch for Self-Cleaning: the tread design is open — without mud-catching pockets. And because it's open, it's flexible — dirt and trash are thrown free. You get good traction forwards and backwards.

At the first chance you get, make this little check yourself. See if you don't agree that B. F. Goodrich Silvertowns are tops in traction.

You may find it hard to get B. F. Goodrich rear-wheel tires right now. There just aren't enough to go around. If you are going to need new tires this fall, better see the B. F. Goodrich dealer or B. F. Goodrich Store on your next trip to town. He can serve you better if he knows your requirements far in advance. He can help you, too, with tires for implements, your car or truck.

Photo by Signal Corps U.S. Army

Surplus trucks and ambulances lined up for sale at Camp Breckenridge, Kentucky.

A. A. Bone, first buyer at a DPC auction loading the wheelbarrow he bought for $5.

WAR SURPLUS PROPERTY

Photo courtesy Cleveland Press

From life raft to riding spurs—Your choice of things useful or funny.

FEDERAL officials assert that speculators won't be in the deal when the Government sells its billions of dollars' worth of surplus war goods. At the first auction of Defense Plant Corporation's surplus held in the United States at Ashland, Ohio, there was no attempt to freeze out established tradesmen, but a "one to a customer" rule was applied, when it appeared that a speculator intended to pick up a quantity of items. The auction at the Ashland Fair grounds was a guinea pig sale to set the pattern for approximately 1,500 such sales throughout the country.

As in the case at most public auctions, bidders were inclined to go above the actual value of the item, and Government officials had to take care that ceiling regulations weren't broken. When a figure was given that approached or reached the original cost to the government, the OPA whistle was blown. The government wants, of course, to get back as much of its (our) money that is possible, but it doesn't want to profiteer.

The first item sold at the Ashland auction was a wheelbarrow. It went to A. A. Bone of Ashland, R.D. 2 for $5. Some of the men in charge of the auction were encouraged because they recalled previous sales of just such items that went to speculators for 20 cents each. Other items in the early sales were: used rubber boots for $4 a pair, claw hammers at 80 cents, and sledges for $1.30.

In Region IV last month, which includes Indiana, Kentucky, Ohio, and West Virginia, 1100 used trucks, ambulances, autos and motorcycles were offered for sale at Army camps in that region. The Surplus War Property Administration announced that between May 15 and August 15, approximately $38,000,000 of surplus war property had been disposed of by five authorized disposal agencies. More than 23,000 trucks have been declared to the Treasury Procurement Division, and 30,000 more are expected soon. Generally, trucks have been disposed of quickly after being inspected and listed for disposal. Sales have been made largely to farmers and haulers who needed trucks to save their crops.

Recently a series of tests have been made by dealers, local A.A.A. representatives and farmers which demonstrated the versatility of surplus Army Trucks in Agricultural areas. A half-ton ammunition carrier and a ton and one-half closed cab truck that had many months of military service were used in the tests made near Moscow, Idaho.

Loaded with passengers, the one-half ton ex-ammunition carrier, with four-wheel drive and four speeds ahead was put through its paces up and down, over small and large hills, through deep ploughed summer fallow without a hitch, for several hours. Other uses for the equipment were demonstrated, such as pulling pea dusters, haying, hauling grain from combines, hauling combines from place to place, pulling light equipment for field work and logging.

Available vehicles may be obtained by making application to your local A.A.A.—Farm Transportation Committee, W.P.B., P.A.W. or O.D.T., regional offices which are authorized to issue letters of certification to essential users up to the number of trucks available. All sales must be negotiated through dealers, who should contact the nearest Treasury Office of Surplus Property. Inspection of vehicles by the purchasers can be made by arranging to accompany their dealer to the camp at which the truck is located.

Just recently, W. L. Clayton, Surplus War Property Administrator, announced the procedure for the allocation of surplus transport aircraft. Under the procedure, all surplus transport type aircraft or surplus tactical aircraft that are suitable for conversion to transport purposes, in excess of 5,000 pounds gross weight, are to be allocated among applicants. An applicant for such aircraft has to state, among other things, a description of the routes presently served and the number and types of aircraft presently in use.

This procedure was necessitated by the current shortage of transport aircraft in relation to the demand for this type of plane.

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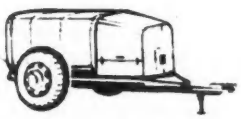

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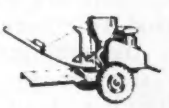

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A typical scene in the Seminole citrus section. Ground bordering groves is thickly carpeted with fallen grapefruit after hurricane.

FLORIDA'S "CITRUS SPECIAL"

Hurricane of October 19 Brings 20 Million Dollar Fruit Loss

By EDITH M. BUTLER

So staggering was the loss to the Florida citrus industry from the hurricane of October 19 that it will be weeks before complete and authoritative estimates of these losses are compiled. A concensus of the shrewdest estimates to date put total fruit damage at 20 million dollars, although some in the industry gave much higher figures.

Citrus growers labeled the storm the "Citrus Special," the worst blow in the history of the industry. For twelve hours gales battered the grapefruit and orange groves, carpeting the ground with ripe and near-ripe fruit.

The storm whipped up the Florida Gulf Coast from Cuba, veered sharply inland near Sarasota and roared across the peninsula through the counties which form the backbone of Florida's huge investment in groves.

Hope for salvaging the fruit depends on cool weather for the next ten days and whether processing and canning plants will be able to absorb the deluge on an emergency basis. None were in operation when the storm broke. Labor either for picking up the fallen fruit or for operating the processing plants is scarce.

Estimates on losses sustained were based not only on what fruit was on the ground—which may run as high as 10 million boxes—but on the future fall that had been bruised by whipping branches. Some trees, also, will die from the effects of the salt spray picked up by the 90 mile gale.

Harry D. Ulmer, prominent Indian Rocks grower and shipper, inspects fallen grapefruit after recent Florida hurricane.

Growers pointed out that a high percentage of their bearing trees require pruning which may result in a reduction of approximately 10 percent in the volume of next year's crop.

Highest percentage of "drops" was in grapefruit which was maturing rapidly and already was being shipped to northern markets in increasing quantities. Loss of grapefruit has been judged to be from 50 to 60 percent, and the orange crop, 25 percent. The smaller fruits—tangerines, calamondins, limes and kumquats held up fairly well throughout the storm.

Citrus commission officials and the OPA are working to alleviate losses suffered by citrus growers. Senator Claude Pepper asked government agencies action on the following points: an immediate survey by OPA and WFA of damage suffered; a reconsideration by OPA of citrus price ceilings in view of heavy crop destruction; a relaxation by WPB of restrictions on use of

(Continued on page 29)

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*In cooperation with the Bureau of Ships, U. S. Navy.

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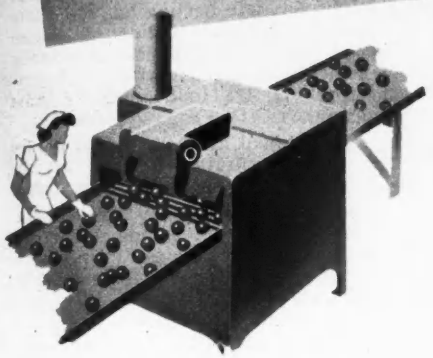

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STATE NEWS

MINNESOTA—The Minnesota State Horticultural Society recently elected Eldred M. Hunt secretary-treasurer of the society. Mr. Hunt was formerly Extention Horticulturist at the University of Minnesota. His broad experience in Minnesota horticulture more than fits him for the job.

E. M. Hunt

New Directors of the Minnesota Fruit Growers Association are J. K. Andrews of Faribault and George W. Nelson of La Crescent. Mr. Andrews, president of the Andrews Nursery Company, operates the largest commercial apple orchard in Minnesota. Mr. Nelson owns a large apple orchard and also grows large quantities of cherry-plums and small fruits.

Other directors, re-elected at the annual meeting on October 11 at Minneapolis, are: Leon F. Gates of Rochester, Oscar Sorby of Montevideo, and J. D. Winter of Mound. Annual dues of the association were increased from $1.00 to $1.50 to meet increased operating costs.—J. D. Winter, Sec'y, Mound.

TENNESSEE—Horticulturists from nine states met on October 3rd at the Tennessee Agricultural Experiment Station in Knoxville for a two-day "open house" to compare notes on the progress of pear breeding.

Fruits from the most promising crosses made by Dr. Brooks D. Drain and several of his predecessors over two decades, were sampled and discussed. Fruits deriving their quality from such parents as Bartlett, Duchess d'Angouleme, and Worden Seckel, from trees which show high resistance if not immunity to blight, were considered quite promising.

The visiting horticulturists stopped at the State's new substation at Crossville on the Cumberland Plateau en route to Nashville. The next day they visited the Mericourt Station at Clarksville, where they inspected with interest, the trees which had produced the most promising fruits.

Several thousand pear hybrids had been growing in this test block under sod culture (Sericea lespedza), since 1931.

Dr. W. W. Aldrich of the U.S.D.A. Station at Beltsville, concluded the meetings with a review of 30 years' progress in pear breeding over the Nation.—A. N. Pratt State Horticulturist, Nashville.

ARKANSAS—The year 1914 actually saw the beginning of two world wars. Half a decade before this worst catastrophe of modern times, a young commercial chemist, tiring of the unhealthful and unattractive laboratory conditions of that day and time, decided to get into the great outdoors, and, being attracted to the Ozarks, settled in the fruit district of Northwest Arkansas.

Irvin Rothrock

Here, beginning with limited capital but a seemingly tireless energy, he produced practically nothing at first but winter apples.

He diversified as changes came in the fruit world until his present holdings include apples ripening from June until October, early and later varieties of grapes and also cherries.

Today, white-headed and aging, Irvin Rothrock puts more actual work into the war effort than the majority of men half his age.—Thomas Rothrock, Sec'y, Springdale.

Horticulturists from nine states gathered at the Mericourt Station at Clarksville, Tennessee. From left to right, back row are: Dr. F. S. Howlett, Ohio; Dr. Aldrich, Dr. L. F. Hough, Illinois; Mr. W. C. Pelton, Tennessee Extension Service; Dr. W. S. Flory, Jr., Virginia; Prof. A. M. Musser, South Carolina; and Prof. Troy Jones, Mississippi. Front row: Dr. J. P. Overcash, West Tenn. Station; Dr. Brooks Drain, Mr. W. D. Armstrong, Kentucky; Dr. F. F. Cowart, Georgia.

CALENDAR OF COMING MEETINGS and EXHIBITS

Nov. 15—Annual meeting of the New Hampshire Horticultural Society at Carpenter- Hotel, Manchester.—A. L. French, Sec'y, Concord.

Nov. 16-17—The 79th Annual Convention of the Iowa State Horticultural Society and the 33rd Annual Convention of the Iowa Fruit Growers' Association at Iowa State College, Ames.—R. S. Herrick, Sec'y, Des Moines.

Nov. 16-17—Annual Convention of the Wisconsin State Horticultural Society at the Retlaw Hotel, Fond du Lac. The first Annual Convention of the Wisconsin Apple Institute will be held on Nov. 17 in conjunction with this meeting.—H. J. Rahmlow, Sec'y, Madison.

Dec. 4-6—Fortieth annual meeting of Washington State Horticultural Association, Yakima.—John C. Snyder, Sec'y, Pullman.

Dec. 5-7—Michigan State Horticultural Society annual meeting at the Civic Auditorium, Grand Rapids. Michigan Apple Show and commercial exhibits will be held in connection with this meeting.—H. D. Hootman, Sec'y, East Lansing.

Dec. 5-7—Annual meeting of New Jersey State Horticultural Society at the Claridge Hotel, Atlantic City.—Arthur J. Farley, Sec'y, New Brunswick.

Dec. 5-7—American Pomological Society in joint session with the Virginia State Horticultural Society at Roanoke, Virginia. Headquarters at Hotel Roanoke.—H. L. Lantz, Sec'y, Ames, Iowa.

Dec. 7—Arkansas State Horticultural Society winter meeting at Springdale.—Thomas Rothrock, Sec'y, Springdale.

Dec. 8-9—Annual meeting of Oregon State Horticultural Society at Hood River.—O. T. McWhorter, Sec'y, Corvallis.

Dec. 11-13—Illinois State Horticultural Society annual meeting at Urbana Lincoln Hotel, Urbana.—C. C. Mast, Sec'y, Quincy.

Dec. 12-13—Connecticut Pomological Society annual meeting, Hartford.—H. A. Rollins, Fruit Specialist, Storrs.

Dec. 13-15—Annual meeting of the Indiana Horticultural Society at the Severin Hotel, Indianapolis.—K. I. Fawcett, Sec'y, Lafayette.

Dec. 14-15—Peninsula Horticultural Society annual meeting at Dover, Delaware.—T. F. Manns, Sec'y, Newark, Del.

Jan. 3-4—Maryland State Horticultural Society annual meeting at Hotel Alexander, Hagerstown.—A. F. Vierheller, Sec'y, College Park.

Jan. 3-4—Fifty-first annual meeting of the Massachusetts Fruit Growers' Association, Inc., in Horticultural Hall, Worcester.—Lawrence Southwick, Research Assistant, Amherst.

Jan. 9-11—Annual meeting of the Pennsylvania State Horticultural Association at Harrisburg.—John U. Ruef, Sec'y, State College.

Jan. 10-12—Annual meeting of the New York State Horticultural Society at Seneca Hotel, Rochester.—H. M. Putnam, Assistant Sec'y, Lyons.

Jan. 23—Vermont State Horticultural Society annual meeting in the Memorial Auditorium at Burlington.—Chas. H. Blasberg, Sec'y. Burlington.

(Continued on page 25)

Mail Coupon for Glorious FREE BOOK
STARK YEAR BOOK
Hurry to get FREE COLOR CATALOG (over 1 foot long) while they last!
MANY WEIGH 1 POUND EACH
NEW HAL-BERTA Giant Peach (U. S. Patent)
Burbank's Famous Red Flesh ELEPHANT HEART (Trade-mark) Plum
STARKING NEW Double-Red Delicious Apple (Trade-mark)
New U. S. Patent MONTEARLY and MONTIATE Cherries
COUPON BRINGS prize tree FREE offer to encourage home-planting
New! Stark GOLDEN DELICIOUS APPLE (Trade-mark)

New Fruit Tree Marvels

undreamed-of in Grandfather's time

The amazing new improvements of Stark and Burbank that bring you trees propagated direct-in-line from record-bearing parent trees... many

Bear larger fruit! Bear 1 to 3 years sooner*! or Bear up to 40 bushels!

Salt Lake City, Utah
April 1, 1944

Stark Bros. Nurseries
Louisiana, Mo.

Dear Sirs:

Kindly send us collect the enclosed order of trees and grape vines. When the Stark salesman first contacted us and showed us the catalog Mrs. Miller and I agreed that it all looked wonderful on paper, but we had an idea in the back of our heads that it was mainly for advertisement and somewhat exaggerated as are most advertisements. However, because of the recommendation that our friends and neighbors gave us, we ordered Stark Trees.

Last Summer, 1943, to our happy surprise, we didn't have to buy a bushel of peaches (which brought $5.00 to $6.00 a bushel)—we picked plenty from our young 2-year-old trees for us to eat and can. Thus we are convinced that what you say about having quick bearing trees is true. We are very happy about our small home orchard.

Respectfully,
(Signed) Marvin G. Miller.

Get Special Low Prices on Family Tree Plantings, as urged by the U. S. Gov't. Don't Delay. **MAIL COUPON TODAY**

Astounding results from scientific selection, special super heavy root system grafting and "fattening" in selected soils before shipping

HERE NOW, in America's most alarming fruit shortage, come trees of the horticultural wizards, Burbank and Stark, offering fruit abundancy quickly for individuals with even as little as 20 ft. square of ground.

So vastly improved have some varieties of fruit trees become by selecting the heaviest bearers, or the quickest to fruit, or the trees with largest, most vividly colored, most delicious fruit, that the benefits of fruit growing have multiplied many-fold. Thousands of these trees, selected over years and years, are already in the grounds of thousands of delighted growers in virtually every state of the union, and on almost any kind of land where usual farm crops grow.

These tree miracles—are the "expert's choice" to produce fruit as quickly as possible for home and commercial planting as urged by U. S. Gov't.

Pay Cost Before Ordinary Trees Bear*

In home and farm orchards throughout the country you'll already find these living testimonials to the life work of men like Burbank and Stark—fruit trees that are bearing rich, delicious, premium bringing prize fruit years younger. Yes, these trees bear fruit so young that some often pay back the full tree cost before ordinary trees bear at all.

Amazing new color Year Book free Tells how—shows how

This greatest of all fruit catalogs is bringing praise from people in every walk of life from all over the country. And no wonder; it shows how and why it is easier to grow prize fruit than ordinary fruit.

This master book of horticulture shows how you may work wonders with these wonder trees. There are 72 pages, abounding with true life pictures—actual live fruit photographs that make selection easy. Valuable information on every page. Simple, easy to understand directions on what to do and how to do it, make fruit growing simple and easy. Check coupon to get this magnificent art color catalog of miracle fruit, a book over a foot long—free while they last.

Health authorities are urging people to eat twice as much fruit. More fruit will be needed to supply the devastated countries of Europe. Yet, the new U. S. census of agriculture reveals already an alarming fruit shortage—only ½ as many apple trees as there were ten years ago. That's why our government is urging more home planting of fruit trees.

The Wonder Book of Wonder Fruit Trees

Stark's glorious wonder book of wonder trees and shrubs shows you and other patriotic Americans how to replace ordinary fruit trees with fruit trees of Burbank and Stark—the trees with a record of bearing earlier—and bearing more bushels of top quality, more vividly colored, premium price fruit. The magnificent new Starking (trade-mark), the King of all Red apples—red all over weeks before ripening. Stark's Golden Delicious, glorious new Quality Queen of all yellow apples. Unequalled in richest, juiciest flavor—superior in young and heavy bearing! Jonared, the gorgeous new (Stark U. S. Patented) double-red Jonathan apple. The gigantic new Hal-berta. (Stark's U. S. Pat.) titan of all peaches. Amazing mid-season producer. The world's largest peach—delicious, firm, melting lusciously juicy, many weigh 1 lb. each! All the exclusive new varieties sold only by Stark. Also, amazing new hardy Cherries—and hundreds of other Stark fruit trees, shrubs and roses all true-to-name and true to strain—and safe arrival guaranteed.

Check Coupon for These Priceless Books

1. Free Big new 1945 prize fruit book and details of free prize tree offer.
2. Free Stark Fruit Planting Guide Book. This practical guide, the result of over a century of research and tests, will show you actually how to select trees and raise an orchard for maximum yield and profit. It will be sent free with the big 72 page Stark color book of fruits, shrubs and roses that show the wonderful new horticultural triumps.
3. Free New Simplified Landscape Booklet—how to landscape your own home grounds. Check and mail coupon today. Stark Nurseries, Box A-64, Louisiana, Missouri. Largest in the World, Oldest in America. Branch nurseries coast to coast.

BOTH STARK BOOKS FREE if you hurry!
STARK YEAR BOOK
STARK'S FRUIT PLANTING GUIDE
Owing to Shortage of Salesmen a coupon brings you a glorious new catalog—over 300 color plates from live fruit—525 Choice varieties. Don't Delay—Mail Today. FREE extra Landscape Booklet

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Box B-34, Town of Louisiana, MISSOURI

Largest in the World . . . . Oldest in America

9 Branch Nurseries . . . . . Coast to Coast

*CATALOG TELLS YOUNG BEARING AGE OF NEW VARITIES

APG 11-44

STARK Nurseries, Box B-34, Louisiana, MISSOURI

Gentlemen: Send me Free: ☐ New, big 1945 PRIZE FRUIT BOOK and details of free tree offer.

☐ Check here for free fruit planting guide.

☐ Check here for Free Home Landscape Booklet.

☐ Check here if you could use 10 or more trees or plants.

Name .....

P.O. ..... County .....

St. or R. F. D. ..... State .....

☐ Check here to sell Stark prize fruit trees, roses, shrubs, in Spare Time. Get our Weekly Cash Income Plan.

"I Sold $1,760.80 worth of trees one week spare time"
REV. E. R. ECKERLY

MEN and WOMEN WANTED—profitable spare time work

Thousands are planting home orchards as urged by U. S. Gov't. This opens an amazing opportunity for men and women to make real money selling for Stark Bro's., America's biggest and oldest nursery. Rev. E. R. Eckerly, Indiana, sent in unusual sales of $1,760.80 in one week. All over the country Stark representatives are making nice extra income selling exclusive patented varieties of Stark-Burbank trees. 129 years in business, 75 years of advertising, plus thousands of satisfied customers have made Stark trees, shrubs and roses preferred the country over. No investment. No experience to start. Free outfit. No collections. Check coupon to get liberal weekly income plan. MAIL TODAY.

A P S

THE 60th Convention of the American Pomological Society will be held at Roanoke, Virginia, December 5, 6, and 7, in joint session with the Virginia State Horticultural Society.

This will be a meeting of unusual interest because there are momentous questions of state, regional and national importance to fruit growers, which need to be discussed. At this writing the program has not been formally completed, but you may be assured that authorities on the several problems will be there to participate in the program. Probably the foremost question of the day is how to secure for the fruit industry a just and fair share of the world export market in fruits following the war. This important question was brought to the attention of the convention held last December at St. Louis by Mr. Fred A. Motz, International Commodity Specialist of the U.S.D.A. At that time Mr. Motz reviewed the past history of the fruit export business and showed how necessary it had been to develop an export trade in fruits to absorb dangerous surpluses from year to year. Following the war, the export trade will be equally important and for the same reason. And following the war, an entire new trade treaty program will have to be formulated and brought into being by our government officials. Motz related that the United States was the only major fruit producing region in the world which did not have a National Fruit Council made up of representatives of the fruit industry whose function was to work with government officials in working out foreign trade export policies. He recommended to the convention that steps be taken to call together representatives of all horticultural groups for the purpose of organizing a representative body which could speak for the fruit industry, and which could assist government officials in the writing of new trade treaties. It now remains for some "over-all" organization to take the lead, call the meeting and determine just how far the fruit industry may wish to commit itself to the organization of a National Fruit Council. If the American Pomological Society can serve to call the necessary preliminary meeting for the formal discussions, it stands ready to do so. Something definite is likely to come out of the meeting of December 5, 6, and 7 at Roanoke.

Strawberry Mulching Essential

Winter protection from cold has long been recognized as needed by the strawberry. "However," says Dr. A. S. Colby, Chief in Small Fruit Control, University of Illinois, "the close correlation between a good mulch, applied on the right date, and prevention of damage to the crowns of the plants by cold has not been understood and appreciated until recently. Growers are now finding that low temperatures, even as early as November, cause sufficient crown injury in unmulched patches to seriously curtail production the next year. Mulching then, is now being considered necessary for other reasons than keeping the fruit clean and retaining the soil moisture during the picking season.

"Last year one of my students obtained additional evidence on the value of strawberry mulches as they influence the gross returns received from the sale of fruit. In one study, Mr. Thompson used six different mulching materials, threshed soybean refuse, mixed leaves, cut corn stover and wheat, rye and oat straw. These were applied to depths of 3 to 6 inches respectively, measured after settling.

"We first computed the total cost of each material used, based upon its nutrient value, if it had been plowed under, added to the expense involved in procuring the material, cutting the corn stover, raking the leaves, hauling and applying it. Gross returns per acre over the total cost of each mulch was determined, after the fruit had been picked and sold. The row mulched with 3 inches of wheat straw was, all things considered, the most profitable, since the yield was highest and mulching costs were relatively low. Six inch mulches tended to retard ripening of the berries, resulting in lower prices, and this disadvantage, together with the high cost of material for such covers, reduced gross returns in every case. It was found that yields were the lowest under six inches of corn stover. However, there were no dirty berries found in the rows where six inches of straw (wheat, oat or rye) was used. The lowest percentage of dirty berries, where a 3-inch mulch had been applied, was 6.3% under the wheat straw. The highest percentage was 52%, in the check row."

H. L. Lantz
Secretary

IN THE NEWS

D. B. PERRINE

D. B. Perrine is president of the Illinois State Horticultural Society as well as the National Peach Council so he is a prominent and progressive fruit grower who is known to many. His great-grandfather, grandfather, and father all lived and worked on the fruit farm where Dave Perrine was born and today the premises on Perrine Road, Centralia, Illinois, are operated by the firm of Perrine Brothers, Growers of Apples, Peaches, and Pears.

D. B. PERRINE

Mr. Perrine's earliest recollections about the farm are of rows and rows of strawberries, but today no berries are produced on the farm. There are, however, approximately a hundred acres of peaches and a similar acreage of apples.

He is married and has two daughters who are, as Mr. Perrine says, "both peaches."

Though he claims to have no aspirations politically, he has been exceptionally outstanding as the fruit growers' choice for representation in fruit growing realms.

RICHARD C. KIMMEL

An outstanding fruit grower in the State of Nebraska is Richard C. Kimmel of Nebraska City. He operates a fruit farm of about 75 acres which is highly successful because of his thorough and careful plans of operation. He started with only cherries, apples and grapes, but he has added strawberries, raspberries and peaches because of the demand for them at his enterprising fruit market.

RICHARD C. KIMMEL

In 1940 a freeze wiped out most of his cherry trees which he has replaced during the last few years. Instead of running the rows north and south, up and down the hills, he cooperated with the Soil Conservation Service in contour terracing the land, and he has about 30 acres of new plantings on the contour.

During a dry season, beginning in 1934, he installed an irrigation system, pumping water from a small creek called Walnut Creek, and, thus, saved his trees from dying of thirst.

His cold storage handles about 1500 bushels of apples and, at his market on a principal highway between Omaha and Kansas City, he sells his fruit as well as cider from his own cider press.

Mr. Kimmel is a past president of the Nebraska Horticultural Society.

(Continued on page 28)

He's keeping motors on the job today...

Demand for cars will mean employment

One of these days jeeps and motorized vehicles will jounce along the rough road to final victory. Then the great automotive industry will begin shifting its gears to peacetime production. Thousands of war veterans and workers will hope to find jobs making or servicing cars. Here's why:

Countless Americans want and need new cars and trucks for both pleasure and business...

Accumulated savings in war bonds and banks today will help provide the needed purchasing power tomorrow...

Automotive producers will be ready to start turning out peacetime models within a few months after the termination of war contracts and the reconversion of plants...

Service for automotive vehicles will be required on an expanded scale.

BUY MORE WAR BONDS TODAY... And Hold Them for Peacetime Prosperity

...will they keep him in a job tomorrow?

Nickel, too, will be employed...in peace

Just as Nickel joins hands with steel and other metals to give Allied fighting men the finest battle equipment—so Nickel will help produce the peacetime trucks and cars that all the world will want.

Not only in the automotive field but in the other major industries, Nickel will be in great demand because of its ability to add toughness, corrosion resistance and other special qualities to metals.

Nickel and its alloys, including Monel, and Stainless Steel, will again turn to its peacetime purpose of helping to build better cars, homes, trains, tools and tractors—products that serve men and create employment.

Manufacturers with metal problems are invited to consult Nickel's Technical Staff.

The International* NICKEL *Company, Inc.
New York 5, N.Y.

World's largest miners, smelters and refiners of Nickel and Platinum metals . . . sole producers of MONEL . . . *producers of other high-Nickel alloys*

CURTISS-WRIGHT PHOTO

The Airplane Industry is GIGANTIC

...but farm production IS BIGGER!

AMERICA produced *eleven billion* dollars worth of military airplanes, engines and propellers in 1943! But the total of farm production was eight billion dollars *more!*

Yes, farming is a huge industry and it needs the best of specialized equipment. So Exide makes batteries that are built to fit farm requirements—just as we make special batteries for mines, railroads, shipping and other industries.

There's a long-lived, dependable Exide built for almost every farm need. Heavy-Duty Exides and Extra-Duty Exides do a great job in harvesters, tractors, heavy trucks and other rugged equipment. And for light trucks or farm cars, you'll get real performance with a long-lasting Exide. When you need a battery, ask for Exide. Buy to Last—Save to Win.

THE ELECTRIC STORAGE BATTERY CO.
Philadelphia 32
Exide Batteries of Canada, Limited, Toronto

BUY TO LAST
SAVE TO WIN

1 Don't buy *anything* you can do without.

2 When you MUST buy, insist on long-lasting, dependable merchandise.

3 Take care of the things you have. *Make them last!*

These conservation rules save materials for war production, help curb inflation, give you more money to invest in War Bonds.

EXIDES ARE USED IN MORE THAN 100 APPLICATIONS BY OUR ARMED FORCES

NEW VARIETIES

(Continued from page 7)

sert quality, latest commercial variety. Should be tested from Maryland to New England, west to Missouri and Minnesota. So late that it must have moist fertile soil and be well mulched.

Reward—From Vancouver, British Columbia. British Sovereign x Startler or Progressive, everbearing.

*Redwing—From New Jersey Experiment Station, New Brunswick, N. J. New Jersey 46 (Pearl x Aberdeen) x Fairfax. Large, attractive, bright red, firm, mild flavor, late.

Robinson—From Michigan, reported Howard 17 x Washington large, second early just after Howard 17.

*Sparkle—From New Jersey Experiment Station, New Brunswick, N. J. Fairfax x Aberdeen; only medium size, bright glossy red, firm, midseason, reported as having some resistance to red stele, though susceptible under some conditions.

*Starbright—From United States Department of Agriculture, Beltsville, Md. Chesapeake x Fairfax. Only moderate plant maker, firm, very attractive, bright red, high dessert quality, midseason, only moderately productive.

Streamliner—From Oregon, reported as large, solid, and everbearing.

*Temple—From United States Department of Agriculture, Beltsville, Md., and Maryland Experiment Station, College Park, Md. Berry resembles a bright Dorsett, ripens just after Blakemore, red-stele resistant, suited to Eastern Shore of Delaware, Maryland and Virginia; not tested elsewhere.

*Tennessee Beauty—From West Tennesee Experiment Station, Jackson, Tenn. Missionary x Howard 17. Good shipping and quick-freezing berry, large, attractive, productive, somewhat drought-susceptible, midseason to late. Much superior to Aroma where comparative tests have been reported.

*Tennessee Shipper—From West Tennessee Experiment Station, Jackson, Tenn. Missionary x Blakemore. Firmest shipping berry, only medium size, tart, excellent for quick-freezing, second early. Should be compared with Blakemore in Kentucky, Tennessee, Missouri, and surrounding area.

Vanrouge—From Ontario Experiment Station, Vineland, Ont., Canada. 180,115 x Bliss. Unproductive in New Jersey, midseason, liked for quick-freezing in Ontario.

Blueberry Varieties, Northern Type

*Atlantic—From U. S. Department of Agriculture, Beltsville, Md. Jersey x Pioneer, largest berry of all, good quality, light blue, late season. Proven productive in New Jersey. Should be tested in other sections.

*Burlington—From U. S. Department of Agriculture, Beltsville, Md. Selected by Miss E. White at Whitesbog, N. J. Rubel x Pioneer. Latest variety of northern type, week later than Rubel, good quality, medium size, light blue, best scar at picking. Proven productive in New Jersey. Should be tested in northern sections.

Kengrape—From Nova Scotia Expt. Station, Kentville, N. S., Canada. Seedling raised in Ottawa, possibly highbush-lowbush hybrid. Bush low, spreading, dark-blue fruit.

Kenlate—From Nova Scotia Expt. Station, Kentville, N.S., Canada. Another

seedling raised at Ottawa, bush upright, berry light blue, late.

*Pemberton—From U. S. Department of Agriculture, Beltsville, Md. Katharine x Rubel, most vigorous bush in New Jersey, late, berry dark blue, tears when picked, very large berry. Proven very productive in New Jersey, and in limited tests even more promising in northern sections.

Blueberry Varieties, Southern Type

*Black Giant—From Crestview, Fla., very vigorous, large, black, rather soft berry, subject to fruit spot.

*Clara—From southern Georgia. Vigorous, medium size, medium blue color, high-flavored berry.

*Hagood—From Crestview, Fla., spreading bush, medium-sized black, rather soft berry, somewhat subject to fruit spot.

*Myers—From southern Georgia. Spreading bush, medium size, medium blue color, firm, good-flavored berry.

*Owens—From Crestview, Fla., bush very vigorous, large, black. May be best black variety.

*Ruby—From Crestview, Fla., bush medium vigor, berry large, firm, blue, poor quality.

*Walker—From southern Georgia, bush medium vigor, berry light blue, large high quality.

Anne, Jean, Locke, Mineola, Okaloosa, Sapp Early, Scott, and Suwanee are other rabbiteye varieties mentioned in U.S.D.A. Farmers' Bulletin 1951, "Blueberry growing."

Raspberry Varieties

*Gatineau—From Dominion Experiment Sta., Ottawa, Canada. Lloyd George x Newman, early, rather dark, lacks flavor.

Heath—From Bismarck, N. D. A hardy, native small-fruited black raspberry.

Karen-Lea—From Michigan. Reported thornless, light red, a little earlier than Latham.

*Madawaska—From Dominion Experiment Station, Ottawa, Canada. Lloyd George x Newman, very large, early, red.

*Milton—From New York Experiment Station, Geneva, N. Y. A mosaic-escaping red of the Taylor type but brighter red. Season of Taylor. Subject to leaf spot in Maryland.

*Morrison—From Pennsylvania or Ohio. A large, black raspberry, promising in New York and Ohio, but has leaf spot in Maryland.

*Ottawa—From Dominion Experiment Station, Ottawa, Canada. Viking x (Loganberry x Ranere). Hairy-fruited, red, of poor flavor in New York State.

*Rideau—From Dominion Experiment Station, Ottawa, Canada. Lloyd George x Newman. Hardy, large, conic, second early, good flavored.

Scoop—From Michigan. Reported thornless. Large, early, bright red.

*Sunrise—From U. S. Department of Agriculture, Beltsville, Md. Latham x Ranere. Very hardy and very resistant to leaf spot and anthracnose. Earliest red, medium size, especially suited to southern raspberry areas from New Jersey to Virginia. Too small where Taylor and other large-fruited varieties can be grown.

*Tennessee Autumn—From Tennessee Experiment Station, Knoxville, Tenn. Tenn. 181 (Latham x Van Fleet) x Lloyd George. Both early—and fall-fruiting, of good size.

Trent—From Dominion Experiment Station, Ottawa, Canada. Newman x Lloyd George, early, soft, dark red.

(Continued on page 25)

HIGHWAY TRANSPORT . . . VITAL TO VICTORY AND THE AMERICAN WAY OF LIFE

Doubling Production on the Food Front

A man in the Armed Forces eats about twice as much as before, around five and a half pounds of food per day. And we have more than ten million men in the various branches of the military Service. The appetites of America's millions of war workers run a close second to those of our soldiers.

Growing these mammoth amounts of food falls on the capable shoulders of the American farmer. In 1943, he broke all previous production records. This year, he was asked to plant sixteen million additional acres.

Getting most of this food from farm to market, from wholesaler to retailer, from cannery to convoy, is the important home-front assignment of GMC and other make motor trucks.

It's officially estimated that motor trucks moved 98% of last year's huge crop at some stage of the trip from farm to market, requiring the use of more than a million and a half vehicles.

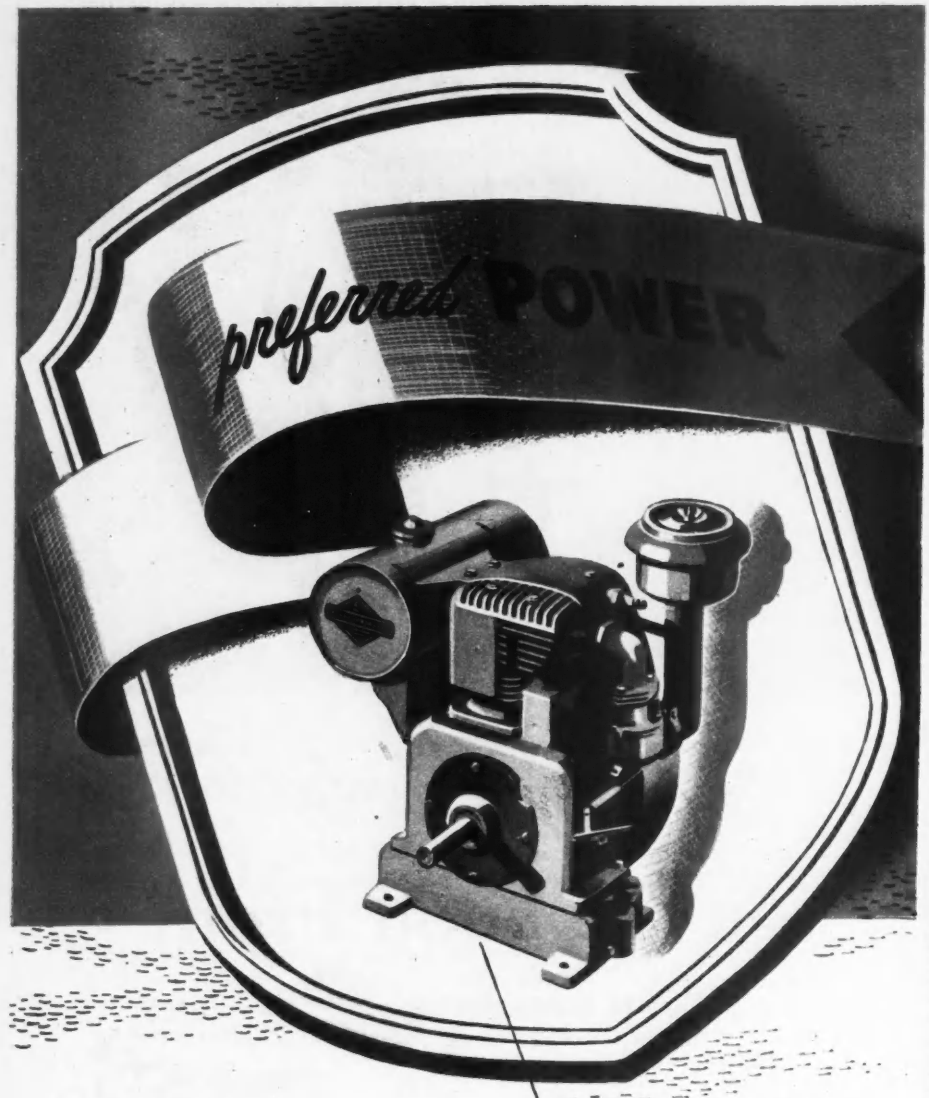
In addition to producing thousands of military trucks and amphibian "Ducks," GMC is now manufacturing several thousand commercial trucks for use in essential civilian occupations. If you are eligible for a new truck, see your GMC dealer first for "The Truck of Value." Remember, too, that your GMC dealer is headquarters for the original truck-saving, time-saving Preventive Maintenance Service.

INVEST IN VICTORY . . . BUY MORE WAR BONDS

GMC TRUCK & COACH DIVISION

General Motors Corporation

HOME OF COMMERCIAL GMC TRUCKS AND GM COACHES . . . VOLUME PRODUCER OF GMC ARMY TRUCKS AND AMPHIBIAN "DUCKS"



That's the "rating" for
Briggs & Stratton 4-cycle, air-cooled gasoline engines—
leaders in the field . . . Preferred power—
based on the performance record of over 2,000,000
of these engines with their watch-like precision . . .
the result of twenty-five years of continuous production,
plus constant research and refinement.

Air-Cooled Power 4 CYCLE BRIGGS & STRATTON GASOLINE ENGINES

Preferred Power, by manufacturers, by distributors and dealers, by owners and users . . . for hundreds of uses and applications . . . because of *trouble-free performance,* easy starting, and economy of operation. Because of year after year of dependable service with minimum care or attention. We are now ready to help you plan for peacetime production of gasoline powered equipment, tools and appliances.
BRIGGS & STRATTON CORP., Milwaukee 1, Wisconsin, U. S. A.

PEACH INDUSTRY

(Continued from page 8)

for the nation's dailies; radio scripts; information, and interpretations on the Peach Ceiling Order, MPR-426, Amendment 39.

The Industry "Carried the Ball"

Small jobs to one side, the notable fact is that the Peach Industry developed a national program; worked unitedly toward that program; and saw most of it accomplished: i.e., the simplest and most favorable price ceiling yet written. The Industry did "carry the ball," effectively, as planned at The St. Louis Conference. For an infant, still wobbly organization, that showed the huge possibilities.

The trend now is away from price controls. The Peach Industry should aid this trend, with every ounce of weight. National Peach Council will work steadily to this end. United, and joining with other fruits, we may get results. Separately, we have small chance, except in localized areas where Nature may play hob with the crop.

Handling 80-to-90 Million Crops

Whether or not price controls remain for the 1945 crop, the work-docket for the national organization will be a heavy one. Except for the April 3d freeze which blasted at least 10 million bushels from the Southern States' crop, we would have wrestled with an 82-million-bushel crop. While another heavy set and crop is not to be normally expected in '45, we must face the fact that 80-to-90-million-bushel crops are ahead. That means intensive work on the marketing end.

Other big jobs ahead include: continuous, concentrated work with the retailers and wholesalers of the nation. They, like the public, are woefully uninformed as to peaches—when they are coming, from where, varieties, etc. Not surprising, considering that there are 9 months between peach seasons.

Development of additional markets for "fresh fruit" peaches, including export; and development of home-canning as a permanent part of the peace-time routine of the American home.

Development of new uses and outlets for peach by-products—a comparatively untapped field. Government is prepared to start on this as soon as War releases their specialists.

Publicity, recipes, new stories and photos, radio scripts. This is a department; a man-size job in itself.

Better production methods of better varieties.

Work with Government. "Controls" of one kind or another will

continue, even after the War; will increase, as they have been for years. These *must* be guided.

Great good will come, to growers and the Industry alike, as we know each other: the East and the West; the South and the North. It has proven so with other industries. We of the Peach Industry do not know each other now.

By present tentative plans, the Annual National Peach Conference will be held at St. Louis, in late February, as proved so profitable and enjoyable last year. Problems are many and pressing. The Conference will be worthy of the Industry and the problems. Plan to be with us: St. Louis in late February.

NEW VARIETIES

(Continued from page 23)

*Willamette—From U. S. Department of Agriculture and Oregon Experiment Station, Corvallis, Ore. Newburgh x Lloyd George. Bush hardier and more productive, berry much larger and much firmer than Cuthbert, deep red, medium early, 10 days before Cuthbert. Well suited to long-distance shipping, canning, and quick-freezing. Adapted to Oregon and Washington, not tested enough in East

Blackberry Varieties

Cascade and Pacific—From U. S. Department of Agriculture and Oregon Experiment Station, Corvallis, Ore. Zielinski x Logan; semi-trailing, of the Young and Boysen type, highest flavor in blackberries, adapted to western Oregon and Washington; season with Young and Logan. Suited to canning, quick-freezing, and preserving.

Merton Thornless—From John Innes Horticultural Institute, Merton Park, London, S. W., England. Hybrid origin. A thornless of the Burbank Thornless and Oregon Evergreen (Black Diamond) type. May be suited to the Pacific Coast regions and possibly to New Jersey.

Currant Varieties

*Cascade—From Minnesota Fruit Breeding Farm, Excelsior, Minn. Bush upright and vigorous, very productive, berries large, dark-red, early to medium season.

*Viking—An old European variety recently introduced; planting permitted in some white-pine blister-rust control areas because resistant to blister rust. Bush upright, vigorous, berries medium size, red.

MEETINGS and EXHIBITS

(Continued from page 18)

Jan. 24-26—Eastern meeting of the New York State Horticultural Society at Kingston.—H. M. Putnam, Assistant Sec'y, Lyons.

Feb. 8-9—Seventy-eighth annual meeting of the Kansas State Horticultural Society at the Kansas State College, Manhattan.—Geo. W. Kinkead, Sec'y, Topeka.

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ORTHO scientific pest control is flexible and progressive. When science shows positively any new and better way to control diseases and pests, the ORTHO line up will be revised to include it.

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RODENT CONTROL

(Continued from page 10)

sible into the entrance to the burrow of the den. Each burrow of the den should be treated similarly. Since carbon disulphide gas is somewhat heavier than air, (2.63; air is 1.), it may fail to control woodchucks on steep hillsides, where the nest is apt to be above the entrance of the burrow. Because of gas diffusion, trouble may also occur when the dens are in loose, gravelly, or rocky soil. Where the soil is damp and compact, this is lessened.

Caution—Carbon disulphide is poisonous and highly inflammable. Therefore, keep it away from fire and avoid smoking when using it. The heavy gas has an offensive (rotten-egg) odor which serves as a warning to those using it.

Chlorpicrin is another liquid which gives off a gas that is considerably heavier than air, (5.7; air is 1.). It is used in a manner similar to that described above for carbon disulphide. However, the fumigant presents no explosive or fire hazard.

Caution—Chlorpicrin has irritant properties in quite low concentrations which renders it a good warning gas. Keep cap screwed tightly on bottle and store in safe place. It is best to wear rubber gloves when using it, because, when in contact with the skin, chlorpicrin burns severely. If spilled on the skin, wipe it off immediately and remove garments contacted by the liquid. For skin irritations, use boracic lotion or a zinc ointment. When patient is overexposed call a physician, keep patient in open air, warm, and lying down until effects wear off. A light stimulant may be given.

The exhaust of a gasoline engine is usually effective in gassing woodchucks. In most cases it is necessary to attach one end of a hose to the exhaust pipe and then work the other end of the hose three or more feet into the entrance to the burrow. Care should be taken to pack sod or loose earth tightly around the hose in order to prevent the gas from escaping. It is slightly lighter than air (0.97; air is 1.). The carburetor should be adjusted to provide a rich mixture of gas and the engine allowed to run moderately for several minutes. Any holes from which smoke or gas is seen emerging should be covered with soil. If there are several entrances to a denning site, and the gas escapes from only one or two, the other holes should also be treated because it is possible there are two separate dens or that one of the connecting burrows is plugged.

Caution — Avoid breathing the fumes as they contain carbon monoxide which is extremely poisonous.

Through several years of research, the Fish and Wildlife Service has developed a gas cartridge which is effective in destroying woodchucks in their dens. These cartridges are about 1½ inches in diameter and 3½ inches long, with a fuse inserted at one end. They are made of cardboard and filled with combustible materials, which give off poisonous gases while burning.

These gas cartridges are light and convenient to use. Several of them can be carried in a coat pocket, while one is working in the orchard. Moreover, they are not dangerous to use and will not explode. When treating an active burrow, puncture the cartridge at the fuse end with a knife or stick (this releases the pressure within the cartridge as it burns), light the fuse, and quickly place the cartridge as far as one can reach into the borrow. Then immediately close the entrance tightly with a clump of sod a little larger than the burrow opening. If dirt is used take care not to cover the burning cartridge.

If there are other openings leading to the same den in which the lighted cartridge was placed, a heavy gray smoke will emerge from them after two or three minutes; these should then be closed tightly. Those burrows in the same denning site from which smoke does not emerge should also be treated.

Caution — Avoid breathing the fumes given off by the burning cartridge. In heavy grass or brush cover care must be taken not to start a fire with matches or the burning cartridges. If kept in a dry place these cartridges may be good for more than one season but dampness for a few months will destroy the fuse.

These gas cartridges may be obtained only during the spring by writing to the local county agricultural agent or to the District Agent, Fish and Wildlife Service. Due to the war, they may be difficult to obtain during the coming year.

It must be remembered that, even after dens are treated with any of the above materials, the burrows may be reopened by wandering or drifting 'chucks. For this reason it may be necessary to go over an area more than once during a season.

Where woodchuck dens are located in porous soil or under stone walls, traps usually must be employed to eliminate the mammals. However, before trapping is employed, local game laws must be consulted. For best results in trapping woodchucks two No. 2 steel traps should be used. They should be set at the entrance to the active burrow, one trap a few inches beyond the other. The chains of the traps should be fastened securely with wire attached to a log or tree or to sticks driven into the ground. It is not necessary to cover traps with leaves or grass. Traps should be visited in the morning and at night, as this is the time when woodchucks are most active.

Woodchucks may also be destroyed by shooting but this method is expensive and not efficient where the mammals have to be removed from large areas.

Many orchardists and farmers keep a dog or dogs primarily to hunt and kill woodchucks. Almost any large breed can be trained to keep the premises relatively free of 'chucks.

Although poisoning is a method employed in the Western States to control woodchucks, it has not proven effective in the East. Research is now being conducted in the use of repellents to protect fruit trees from scratching and gnawing by woodchucks.

Natural predators such as certain hawks, the weasel, and, especially the red fox, take a heavy toll of 'chucks, but, in spite of these and other predators, including man, they continue to invade new agricultural areas; and seem to be moving south of their former range. Therefore, to control woodchucks effectively over large areas where they are doing damage, a cooperative or community effort may be necessary. Finally, in spite of depredations, the woodchuck has many redeeming attributes which mark him as a friend to man. The greatest of these is his tireless efforts in the construction of burrows which are invaded by skunks, foxes, rabbits, and many other mammals, from which man derives thousands of dollars worth of fur and meat annually.

CALIFORNIA FRUIT PACK

Based on present Ration Board requirements, it would take approximately 55 billion blue ration points to purchase the amount of fruit canned in California alone this year.

According to preliminary figures released by the War Food Administration, the total pack is set at 687,685,368 No. 2½ cans. This is the greatest amount of canned fruit ever produced by any state, and exceeds last year by more than 9 million cases.

A LIFT TO THE TAXPAYERS, TOO

IN THIS WAR the railroads have done twice as big a transportation job as in the first World War.

But they are doing another job which may not be so well known, as is shown by these contrasting facts:

In the last war, the operation of the railroads took money out of the United States Treasury.

In this one, the railroads are putting money into the Treasury.

In the last war, when the Government took over the railroads, even though freight rates and passenger fares were raised, Congress had to appropriate $1,600,000,000 to meet deficits.

In this war, the railroads have been managed by their owners. A far bigger and better transportation job has been done. And, since Pearl Harbor, the railroads have turned into the United States Treasury the tremendous sum of $3,250,000,000 in taxes—and today are paying federal taxes at the rate of nearly $4,250,000 every 24 hours.

And, on top of all this, the railroads in the same months since Pearl Harbor have paid for the support of state, county and city governments another $750,000,000 and are today paying state and local taxes at the rate of $800,000 per day.

That's five million dollars a day paid in taxes — ten times as much as the owners receive in dividends.

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NUT GROWERS NEWS

THE STORAGE OF NUTS

THE storage of nuts was investigated a few years ago by R. C. Wright of the United States Department of Agriculture who reported his results in U. S. D. A. Technical Bulletin 770. Since few growers of nuts have seen this publication a brief summary of its findings may be of interest.

Unshelled pecans stored at 32°F with a relative humidity of 75 percent were good for more than a year after harvest. In 40° storage they kept for a somewhat shorter time; at 50° they kept 6 months and at 70° they were stale to rancid in 3 months. Pecan kernels exposed to the air kept satisfactorily from 6 to 10 months at 32° and 5 months at 50°. When packed in vacuum pecan kernels kept 2 to 3 years at 32° and 50°. Pecans that are to be kept more than 2 or 3 months should be put into cold storage soon after harvesting.

A method for the home storage of pecan kernels was devised. The kernels are packed in pint fruit jars with rubber rings in place and lids clamped but not tightened. The jars are stood in a wash boiler on a wooden rack in 2 inches of water which has been brought to the boiling point before the jars are added. The lid of the boiler is put in place and after the water resumes boiling the steaming is continued for 15 minutes after which the jars are removed one at a time and the lids quickly clamped tight. Examined 8 months later the kernels were apparently as good as when packed.

Black walnut kernels in cloth bags exposed to the air were in good condition at the end of 20 months at 32°-F. At 50° and 70° they kept for 8 months. Vacuum packed and stored at 32° and 50° they kept as well as fresh nuts for 3 years and at 70° for almost 2 years.

Unshelled Persian (English walnuts) kept about as well at 50°F as at 32° and in about half the tests the nuts remained good through the second December after harvest. When packed in vacuum the kernels kept longer in good condition at all temperatures than when packed by any other method tried. Shelled kernels left exposed to the air did not keep as well as those handled by the other methods.

Filberts deteriorated rather slowly even at the higher temperatures where the relative humidity was 65 to 75 percent. Unshelled filberts or shelled ones packed in vacuum and stored at 32°, 50° or 70°F kept well from a year to 32 months after harvest. Kernels exposed to the air kept less than a year.

G. L. Slate, Sec.
Northern Nut Growers' Association
Geneva, N. Y.

IN THE NEWS

(Continued from page 20)

E. A. MEYER

The appointment of E. A. Meyer as chief of the Office of Distribution's Fruit and Vegetable Branch was announced recently by the War Food Administration. Mr. Meyer, who formerly served as associate chief of the branch, succeeded the late William G. Meal, who died this past summer.

E. A. MEYER

Mr. Meyer entered the Office of Production Management as a consultant on canned foods in October, 1941. In March of 1942 he became chief of the Canned Food Section of the War Production Board and was named assistant director of the Food Division of WPB the following August. He became chief of the WFA's Industry Operations Branch in September, 1943, and associate chief of the Fruit and Vegetable Branch in March of this year.

Born on a farm near Canton, Ohio, Mr. Meyer received his A. B. degree from Goshen College, Ohio, and also attended Wooster College in the same state. He served in the Quartermaster Corps of the U. S. Army during the first world war. He entered the food processing business in 1920 and was with the same company from 1920 until 1941.

PAUL M. WILLIAMS

Paul M. Williams has been appointed assistant chief of the Office of Distribution's Fruit and Vegetable Branch to replace John E. Dodds, who resigned. Mr. Williams, prior to his new appointment, was chief of the Branch's Processed Standardization and Inspection Division.

PAUL M. WILLIAMS

Mr. Williams has been in government employment since June, 1918, when he served with the Department of Agriculture's Market News Service at Kansas City. He was transferred to Washington in 1920. In August 1923 he became associated with the administration of the United States Warehouse Act and assisted in the development of regulations for the storage of processed fruits and vegetables and certain other commodities for warehousemen operating under the act. He was placed in charge of the canned fruits and vegetables standardization and inspection project when this service was inaugurated July 1, 1931.

"CITRUS SPECIAL"

(Continued from page 16)

tin so fruit could be salvaged in juice form.

Charles H. Walker, president of the Citrus Exchange, at Tampa has advised growers to wait until new ceiling prices are announced before selling fruit for future shipments or canning. He said there will be an unprecedented demand for the remaining fruit at prices higher than the present ceiling and growers should receive the full advantage of these higher values.

J. S. McDonald, Texas State Commissioner of Agriculture, has requested Texas growers to "cut shipments to the bone" to enable the growers in Florida to get damaged crops off the grounds and to markets. Mr. McDonald reminded Texas growers of the 1933 hurricane that hit the Texas Rio Grande Valley. At that time, Florida halted all shipments of citrus until Texas growers had salvaged thousands of dollars worth of fruit.

On the optimistic side, Pinellas County Agent, John Henry Logan remarked that the heavy rains might have done the parched groves almost as much good as the wind did harm.

"Florida's 93,000,000-box crop was far too great for any normal times," said Mr. Logan. "Everybody has been wondering how we could get this huge crop in. It was inevitable, even without the blow, that countless boxes would have rotted on the ground."

Members of the Lakewood Citrus Commission snorted at Mr. Logan's statement as "fantastic."

Prior to the hurricane, U. S. Department of Agriculture had estimated this season's Florida citrus crop as the greatest ever produced—52 million boxes of Oranges, 36 million boxes of grapefruit and 4,700,000 boxes of tangerines.

• BOOK REVIEW •

Contour Farming

"You Have What It Takes to Contour and Terrace" is the subject of an excellent booklet published by the Allis-Chalmers Mfg. Co. On the front page is a map showing areas of various types of erosion throughout the U. S. Photographs and drawings give detailed information on both contour planning and terrace construction. It can be obtained by writing to the Tractor Division of the company, Box 512, Milwaukee 1, Wisconsin.

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Look at the record! In the past year the Kent County organization made 201 rural runs with FMC High-Pressure Fog Fire Fighters. Property on fire saved—$226,985.00—besides the thousands of dollars of exposed property saved. Total losses just 11—only a fraction of the rural average.

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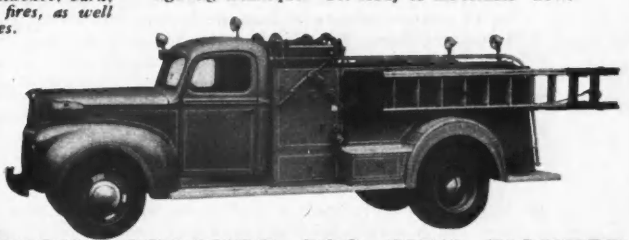

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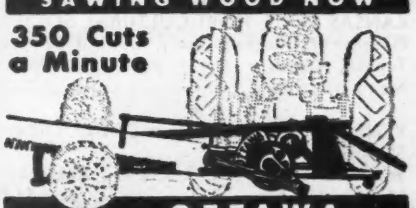

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HERE IS A CHRISTMAS OPPORTUNITY FOR YOU AS A FRUIT GROWER

IT IS an age-old truth that in giving to a friend, you give double the joy to yourself. This being true it seems to us that there must be many fruit growers who would welcome the opportunity to make the approaching Yuletide an especially happy one for some friend or neighbor who may also be a fruit grower. But how? To this natural question a very happy and appropriate answer has been found. And here it is: Give a friend or neighbor a year's membership in your State Horticultural Society as a Christmas gift.

Such a gift to a friend or neighbor has probably never before occurred to you. But can you think of a better or a more appropriate gift among fruit growers?

Here are some of the many benefits such a gift will bring to the friend you select for such a heart-warming remembrance:

- ★ Your State Horticultural Society serves as an educational organization, thus your gift will result in your friend being kept abreast of the times on all matters relative to fruit production, harvesting, storage and marketing problems. By attending the Society's meetings, he will get current information not available to him elsewhere.
- ★ A second and very important benefit is a fraternal one. Among fruit growers there is a mutual interest in each other's welfare, characterized by an utter lack of selfishness. Among the benefits, therefore, of belonging to a State Society, and attending its meetings, are those that come from meeting fellow growers and discussing mutual problems.
- ★ In joining a State Society, your friend will become part of an organization which gives encouragement and support to all agencies looking toward the betterment of the fruit industry. Every fruit grower should be a part of this great widening influence.
- ★ As a member your friend will receive a copy of the Proceedings of the Society containing many important horticultural papers, and the Society will subscribe in your friend's name to AMERICAN FRUIT GROWER—the nation's fruit magazine—for a period of one year.

THE GIFT CARD OF MEMBERSHIP WILL BEAR YOUR NAME

Your State Society will play the role of Santa Claus by notifying your friend that he has been given a Christmas gift of a year's membership through your kindness and generosity. This notification will be sent to your friend on a Christmas card (such as reproduced above in miniature) and this gift card of membership will bear your name as the giver.

Isn't this just about the most fruitful Christmas gift anyone could give to a friend and fellow grower? Since Christmas time will soon be here, select the person you want to honor with this friendly Yuletide gift and send his name to the Secretary of your State Society whose name, address and membership fees appear below together with your check for your friend's membership. Santa Claus will do the rest.

WHERE TO SEND YOUR CHRISTMAS GIFT MEMBERSHIPS

ARKANSAS STATE HORTICULTURAL SOCIETY
Thomas Rothrock, Sec'y, Springdale, Ark.
Membership Fee $1.00

★

CONNECTICUT POMOLOGICAL SOCIETY
H. C. C. Miles, Sec'y, Milford, Conn.
Membership Fee $2.00

★

IDAHO STATE HORTICULTURAL SOCIETY
A. Harold Davidson, Sec'y, 223 19th Ave., S., Nampa, Idaho
Membership Fee $1.00

★

ILLINOIS STATE HORTICULTURAL SOCIETY
C. C. Mast, Sec'y, Quincy, Illinois
Membership Fee $1.00

★

INDIANA HORTICULTURAL SOCIETY
K. I. Fawcett, Sec'y, Lafayette, Indiana
Membership Fee $1.00

★

IOWA STATE HORTICULTURAL SOCIETY
R. S. Herrick, Sec'y, State House, Des Moines, Iowa
Membership Fee $1.00

★

KANSAS STATE HORTICULTURAL SOCIETY
George W. Kinkead, Sec'y, Capitol Building, Topeka, Kansas
Membership Fee $1.00

★

KENTUCKY STATE HORTICULTURAL SOCIETY
W. W. Magill, Sec'y, Lexington, Kentucky
Membership Fee $1.00

★

MARYLAND STATE HORTICULTURAL SOCIETY
A. F. Vierheller, Sec'y, College Park, Maryland
Membership Fee $2.00

MASSACHUSETTS FRUIT GROWERS' ASSOCIATION
W. R. Cole, Sec'y, Amherst, Mass.
Membership Fee $1.00

★

MINNESOTA FRUIT GROWERS' ASSOCIATION
J. D. Winters, Sec'y, Mound, Minnesota
Membership Fee $1.50

★

MISSOURI STATE HORTICULTURAL SOCIETY
W. R. Martin, Jr., Sec'y, Columbia, Missouri
Membership Fee $1.00

★

MONTANA HORTICULTURAL SOCIETY
George L. Knight, Sec'y, Missoula, Mont.
Membership Fee $1.00

★

NEBRASKA STATE HORTICULTURAL SOCIETY
E. H. Hoppert, Sec'y, University of Nebraska, College of Agriculture, Lincoln, Nebr.
Membership Fee $1.00

★

NEW YORK STATE HORTICULTURAL SOCIETY
Roy P. McPherson, Sec'y, LeRoy, New York
Membership Fee $3.00

★

NORTH DAKOTA STATE HORTICULTURAL SOCIETY
Harry A. Graves, Sec'y, State College Station, Fargo, N. Dak.
Membership Fee $1.00

OHIO STATE HORTICULTURAL SOCIETY
Frank H. Beach, Sec'y, Ohio State University, Columbus, Ohio
Membership Fee $3.00

★

PENINSULA HORTICULTURAL SOCIETY
Dr. T. F. Manns, Sec'y, Box 425, Newark, Del.
Membership Fee $1.00

★

PENNSYLVANIA STATE HORTICULTURAL SOCIETY
John U. Ruef, Sec'y, State College, Pa.
Membership Fee $2.00

★

RHODE ISLAND FRUIT GROWERS ASSOCIATION
E. P. Christopher, Sec'y, Kingston, R. I.
Membership Fee $1.00

★

SOUTH DAKOTA STATE HORTICULTURAL SOCIETY
W. A. Simmons, Sec'y, Sioux Falls, S. Dak.
Membership Fee $1.00

★

TENNESSEE STATE HORTICULTURAL SOCIETY
G. M. Bentley, Sec'y, Knoxville, Tenn.
Membership Fee $1.00

★

UTAH STATE HORTICULTURAL SOCIETY
A. Stark, Sec'y, Logan, Utah
Membership Fee $1.00

★

WISCONSIN STATE HORTICULTURAL SOCIETY
H. J. Rahmlow, Sec'y, 424 University Farm Place, Madison, Wis.
Membership Fee $1.00

Why we put tons of chrome where it won't show

Decorative chromium is put where it *will* show. But we put tons of chromium into cylinders of Diesel and gasoline engines where it *won't* show, although you *can* see the results in greatly increased engine reliability.

We use enough chromium in *one* year to chrome-plate the bumpers of every automobile built since 1932. Yet a 16-cylinder, 1800 horsepower Diesel engine needs only 240 ounces of PORUS-KROME to multiply its cylinder life four to twenty times.

PORUS-KROME, applied by the Van der Horst process, is highly resistant to abrasion and corrosion, and "wets" with oil. Experience in thousands of engines in ships, planes, tanks, stationary and mobile power plants, buses, trucks and locomotives shows that PORUS-KROME not only multiplies cylinder and ring life, but reduces scuffing, ring feathering and risk of piston seizure.

Right now, Van der Horst is busy on cylinders in engines for the war. However, it is not too soon for you to plan to have PORUS-KROME in your own engines. When Government restrictions are relaxed, PORUS-KROME will be available to you in new engines and also in replacement liners for existing engines.

Ask for PORUS-KROME . . . and be sure of greater engine reliability.

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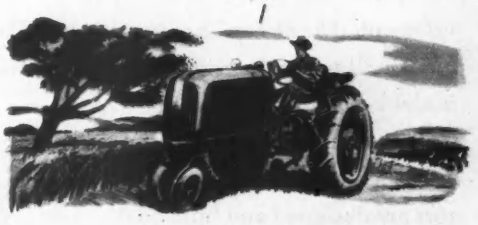
Good for the Life of your Engines



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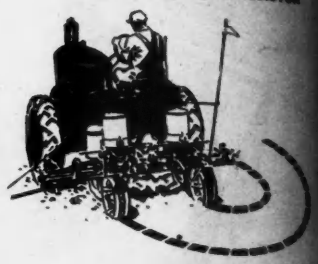
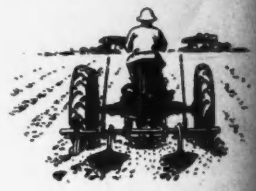
FROM EVERY ANGLE

WITHOUT THESE BASIC FEATURES NO MACHINE QUALIFIES AS AN ALL-PURPOSE FARM TRACTOR

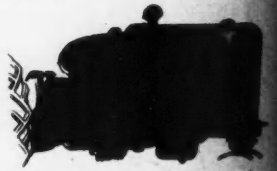


A SHORT TURNING RADIUS is vital for row-crop farming. Farmalls A and B turn in 10 feet. Tricycle design, and individual wheel brakes that enable operator to pivot on either rear wheel, are indispensable features.

AMPLE CROP CLEARANCE is required for cultivating. Farmalls have up to 30 inches vertically and a wide range of rear wheel spacings horizontally. Low pressure tires increase traction and decrease soil packing. On every job the operator has a clear view of the work he is doing.



THERE IS NO SUBSTITUTE for the Farmall's versatility. It is built to operate with the greatest variety of quick-attachable tools ever known. The hydraulic "Lift-All" provides easy implement control.



POWER MUST BE PROPERLY APPLIED for efficient tractor operation. Farmall's correct gear ratios mean low fuel consumption. A governor controls operating speeds. Oil and air cleaners and dirt seals insure long wear. The power take-off and belt pulley complete the Farmall's unbeatable utility as an all-purpose farm power unit.

FARMALLS ARE FIRST

ANY MAN WHO BUYS A TRACTOR buys it for one big reason: *the work the tractor will do.* The quality of work, the volume, and the variety are the real measures of tractor value. Couple these factors with original cost, plus upkeep and operation, and you have the whole story.

That's the way most farmers figure it out when they make this important investment. *The answer has turned out to be a Farmall tractor more times than all other makes combined.*

That doesn't happen by chance. It happens because these famous red tractors are designed and built to do more work, better work, and a bigger variety of work per dollar of cost than anything else on wheels.

At the right are a few basic reasons behind Farmall tractor performance. The McCormick-Deering dealer will be glad to demonstrate how Farmalls, with their complete line of related tools and machines, make up the most efficient system of power farming in existence. . . . Those are the big things to remember when you plan the purchase of farm power equipment.

With all possible manufacturing speed,

THE FARMALLS ARE COMING!

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